HP BladeSystem c7000 Enclosure Maintenance and Service Guide

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Audience assumptions

This guide is for an experienced service technician. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels and are familiar with weight and stability precautions for rack installations.

Contents

Customer self repair

HP products are designed with many Customer Self Repair (CSR) parts to minimize repair time and allow for greater flexibility in performing defective parts replacement. If during the diagnosis period HP (or HP service providers or service partners) identifies that the repair can be accomplished by the use of a CSR part, HP will ship that part directly to you for replacement. There are two categories of CSR parts:

- **Mandatory**—Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service.
- **Optional**—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that HP replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.

NOTE: Some HP parts are not designed for customer self repair. In order to satisfy the customer warranty, HP requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

Based on availability and where geography permits, CSR parts will be shipped for next business day delivery. Same day or four-hour delivery may be offered at an additional charge where geography permits. If assistance is required, you can call the HP Technical Support Center and a technician will help you over the telephone. HP specifies in the materials shipped with a replacement CSR part whether a defective part must be returned to HP. In cases where it is required to return the defective part to HP, you must ship the defective part back to HP within a defined period of time, normally five (5) business days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective part may result in HP billing you for the replacement. With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used.

For more information about HP's Customer Self Repair program, contact your local service provider. For the North American program, refer to the HP website (http://www.hp.com/go/selfrepair).

Parts only warranty service

Your HP Limited Warranty may include a parts only warranty service. Under the terms of parts only warranty service, HP will provide replacement parts free of charge.

For parts only warranty service, CSR part replacement is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service.

Réparation par le client (CSR)

Les produits HP comportent de nombreuses pièces CSR (Customer Self Repair = réparation par le client) afin de minimiser les délais de réparation et faciliter le remplacement des pièces défectueuses. Si pendant la période de diagnostic, HP (ou ses partenaires ou mainteneurs agréés) détermine que la réparation peut être effectuée à l'aide d'une pièce CSR, HP vous l'envoie directement. Il existe deux catégories de pièces CSR:

- **Obligatoire** - Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à HP de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
- **Facultatif** - Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à HP de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.

REMARQUE: Certaines pièces HP ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, HP exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention "Non" dans le Catalogue illustré.

Les pièces CSR sont livrées le jour ouvré suivant, dans la limite des stocks disponibles et selon votre situation géographique. Si votre situation géographique le permet et que vous demandez une livraison le jour même ou dans les 4 heures, celle-ci vous sera facturée. Pour bénéficier d'une assistance téléphonique, appelez le Centre d'assistance technique HP. Dans les documents envoyés avec la pièce de rechange CSR, HP précise s'il est nécessaire de lui retourner la pièce défectueuse. Si c'est le cas, vous devez le faire dans le délai indiqué, généralement cinq (5) jours ouvrés. La pièce et sa documentation doivent être retournées dans l'emballage fourni. Si vous ne retournez pas la pièce défectueuse, HP se réserve le droit de vous facturer les coûts de remplacement. Dans le cas d'une pièce CSR, HP supporte l'ensemble des frais d'expédition et de retour, et détermine la société de courses ou le transporteur à utiliser.

Pour plus d'informations sur le programme CSR de HP, contactez votre Mainteneur Agrée local. Pour plus d'informations sur ce programme en Amérique du Nord, consultez le site Web HP (http://www.hp.com/go/selfrepair).

Service de garantie "pièces seules"

Votre garantie limitée HP peut inclure un service de garantie "pièces seules". Dans ce cas, les pièces de rechange fournies par HP ne sont pas facturées.

Dans le cadre de ce service, la réparation des pièces CSR par le client est obligatoire. Si vous demandez à HP de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.

Riparazione da parte del cliente

Per abbreviare i tempi di riparazione e garantire una maggiore flessibilità nella sostituzione di parti difettose, i prodotti HP sono realizzati con numerosi componenti che possono essere riparati direttamente dal cliente (CSR, Customer Self Repair). Se in fase di diagnostica HP (o un centro di servizi o di assistenza HP) identifica il guasto come riparabile mediante un ricambio CSR, HP lo spedirà direttamente al cliente per la sostituzione. Vi sono due categorie di parti CSR:

- **Obbligatorie** – Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad HP, deve sostenere le spese di spedizione e di manodopera per il servizio.
- **Opzionali** – Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad HP, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.

NOTA: alcuni componenti HP non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, HP richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un "No" nel Catalogo illustrato dei componenti.

In base alla disponibilità e alla località geografica, le parti CSR vengono spedite con consegna entro il giorno lavorativo seguente. La consegna nel giorno stesso o entro quattro ore è offerta con un supplemento di costo solo in alcune zone. In caso di necessità si può richiedere l'assistenza telefonica di un addetto del centro di supporto tecnico HP. Nel materiale fornito con una parte di ricambio CSR, HP specifica se il cliente deve restituire dei componenti. Qualora sia richiesta la resa ad HP del componente difettoso, lo si deve spedire ad HP entro un determinato periodo di tempo, generalmente cinque (5) giorni lavorativi. Il componente difettoso deve essere restituito con la documentazione associata nell'imballo di spedizione fornito. La mancata restituzione del componente può comportare la fatturazione del ricambio da parte di HP. Nel caso di riparazione da parte del cliente, HP sostiene tutte le spese di spedizione e resa e sceglie il corriere/vettore da utilizzare.

Per ulteriori informazioni sul programma CSR di HP contattare il centro di assistenza di zona. Per il programma in Nord America fare riferimento al sito Web HP (http://www.hp.com/go/selfrepair).

Servizio di garanzia per i soli componenti

La garanzia limitata HP può includere un servizio di garanzia per i soli componenti. Nei termini di garanzia del servizio per i soli componenti, HP fornirà gratuitamente le parti di ricambio.

Per il servizio di garanzia per i soli componenti è obbligatoria la formula CSR che prevede la riparazione da parte del cliente. Se il cliente invece richiede la sostituzione ad HP, dovrà sostenere le spese di spedizione e di manodopera per il servizio.

Customer Self Repair

HP Produkte enthalten viele CSR-Teile (Customer Self Repair), um Reparaturzeiten zu minimieren und höhere Flexibilität beim Austausch defekter Bauteile zu ermöglichen. Wenn HP (oder ein HP Servicepartner) bei der Diagnose feststellt, dass das Produkt mithilfe eines CSR-Teils repariert werden kann, sendet Ihnen HP dieses Bauteil zum Austausch direkt zu. CSR-Teile werden in zwei Kategorien unterteilt:

- **Zwingend –** Teile, für die das Customer Self Repair-Verfahren zwingend vorgegeben ist. Wenn Sie den Austausch dieser Teile von HP vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.
- **Optional –** Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von HP vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.

HINWEIS: Einige Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem HP Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No" bzw. „Nein" gekennzeichnet.

CSR-Teile werden abhängig von der Verfügbarkeit und vom Lieferziel am folgenden Geschäftstag geliefert. Für bestimmte Standorte ist eine Lieferung am selben Tag oder innerhalb von vier Stunden gegen einen Aufpreis verfügbar. Wenn Sie Hilfe benötigen, können Sie das HP technische Support Center

anrufen und sich von einem Mitarbeiter per Telefon helfen lassen. Den Materialien, die mit einem CSR-Ersatzteil geliefert werden, können Sie entnehmen, ob das defekte Teil an HP zurückgeschickt werden muss. Wenn es erforderlich ist, das defekte Teil an HP zurückzuschicken, müssen Sie dies innerhalb eines vorgegebenen Zeitraums tun, in der Regel innerhalb von fünf (5) Geschäftstagen. Das defekte Teil muss mit der zugehörigen Dokumentation in der Verpackung zurückgeschickt werden, die im Lieferumfang enthalten ist. Wenn Sie das defekte Teil nicht zurückschicken, kann HP Ihnen das Ersatzteil in Rechnung stellen. Im Falle von Customer Self Repair kommt HP für alle Kosten für die Lieferung und Rücksendung auf und bestimmt den Kurier-/Frachtdienst.

Weitere Informationen über das HP Customer Self Repair Programm erhalten Sie von Ihrem Servicepartner vor Ort. Informationen über das CSR-Programm in Nordamerika finden Sie auf der HP Website unter (http://www.hp.com/go/selfrepair).

Parts-only Warranty Service (Garantieservice ausschließlich für Teile)

Ihre HP Garantie umfasst möglicherweise einen Parts-only Warranty Service (Garantieservice ausschließlich für Teile). Gemäß den Bestimmungen des Parts-only Warranty Service stellt HP Ersatzteile kostenlos zur Verfügung.

Für den Parts-only Warranty Service ist das CSR-Verfahren zwingend vorgegeben. Wenn Sie den Austausch dieser Teile von HP vornehmen lassen, werden Ihnen die Anfahrt- und Arbeitskosten für diesen Service berechnet.

Reparaciones del propio cliente

Los productos de HP incluyen muchos componentes que el propio usuario puede reemplazar (*Customer Self Repair*, CSR) para minimizar el tiempo de reparación y ofrecer una mayor flexibilidad a la hora de realizar sustituciones de componentes defectuosos. Si, durante la fase de diagnóstico, HP (o los proveedores o socios de servicio de HP) identifica que una reparación puede llevarse a cabo mediante el uso de un componente CSR, HP le enviará dicho componente directamente para que realice su sustitución. Los componentes CSR se clasifican en dos categorías:

- **Obligatorio:** componentes para los que la reparación por parte del usuario es obligatoria. Si solicita a HP que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
- **Opcional:** componentes para los que la reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que HP realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.

NOTA: Algunos componentes no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, HP pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

Según la disponibilidad y la situación geográfica, los componentes CSR se enviarán para que lleguen a su destino al siguiente día laborable. Si la situación geográfica lo permite, se puede solicitar la entrega en el mismo día o en cuatro horas con un coste adicional. Si precisa asistencia técnica, puede llamar al

Centro de asistencia técnica de HP y recibirá ayuda telefónica por parte de un técnico. Con el envío de materiales para la sustitución de componentes CSR, HP especificará si los componentes defectuosos deberán devolverse a HP. En aquellos casos en los que sea necesario devolver algún componente a HP, deberá hacerlo en el periodo de tiempo especificado, normalmente cinco días laborables. Los componentes defectuosos deberán devolverse con toda la documentación relacionada y con el embalaje de envío. Si no enviara el componente defectuoso requerido, HP podrá cobrarle por el de sustitución. En el caso de todas sustituciones que lleve a cabo el cliente, HP se hará cargo de todos los gastos de envío y devolución de componentes y escogerá la empresa de transporte que se utilice para dicho servicio.

Para obtener más información acerca del programa de Reparaciones del propio cliente de HP, póngase en contacto con su proveedor de servicios local. Si está interesado en el programa para Norteamérica, visite la página web de HP siguiente (http://www.hp.com/go/selfrepair).

Servicio de garantía exclusivo de componentes

La garantía limitada de HP puede que incluya un servicio de garantía exclusivo de componentes. Según las condiciones de este servicio exclusivo de componentes, HP le facilitará los componentes de repuesto sin cargo adicional alguno.

Para este servicio de garantía exclusivo de componentes, es obligatoria la sustitución de componentes por parte del usuario (CSR). Si solicita a HP que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.

Customer Self Repair

Veel onderdelen in HP producten zijn door de klant zelf te repareren, waardoor de reparatieduur tot een minimum beperkt kan blijven en de flexibiliteit in het vervangen van defecte onderdelen groter is. Deze onderdelen worden CSR-onderdelen (Customer Self Repair) genoemd. Als HP (of een HP Service Partner) bij de diagnose vaststelt dat de reparatie kan worden uitgevoerd met een CSR-onderdeel, verzendt HP dat onderdeel rechtstreeks naar u, zodat u het defecte onderdeel daarmee kunt vervangen. Er zijn twee categorieën CSR-onderdelen:

- **Verplicht:** Onderdelen waarvoor reparatie door de klant verplicht is. Als u HP verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.
- **Optioneel:** Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter HP verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.

OPMERKING: Sommige HP onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

Afhankelijk van de leverbaarheid en de locatie worden CSR-onderdelen verzonden voor levering op de eerstvolgende werkdag. Levering op dezelfde dag of binnen vier uur kan tegen meerkosten worden aangeboden, indien dit mogelijk is gezien de locatie. Indien assistentie gewenst is, belt u een HP Service Partner om via de telefoon technische ondersteuning te ontvangen. HP vermeldt in de documentatie bij het vervangende CSR-onderdeel of het defecte onderdeel aan HP moet worden geretourneerd. Als het defecte onderdeel aan HP moet worden teruggezonden, moet u het defecte onderdeel binnen een bepaalde

periode, gewoonlijk vijf (5) werkdagen, retourneren aan HP. Het defecte onderdeel moet met de bijbehorende documentatie worden geretourneerd in het meegeleverde verpakkingsmateriaal. Als u het defecte onderdeel niet terugzendt, kan HP u voor het vervangende onderdeel kosten in rekening brengen. Bij reparatie door de klant betaalt HP alle verzendkosten voor het vervangende en geretourneerde onderdeel en kiest HP zelf welke koerier/transportonderneming hiervoor wordt gebruikt.

Neem contact op met een Service Partner voor meer informatie over het Customer Self Repair programma van HP. Informatie over Service Partners vindt u op de HP website (http://www.hp.nl/services/servicepartners).

Garantieservice "Parts Only"

Het is mogelijk dat de HP garantie alleen de garantieservice "Parts Only" omvat. Volgens de bepalingen van de Parts Only garantieservice zal HP kosteloos vervangende onderdelen ter beschikking stellen.

Voor de Parts Only garantieservice is vervanging door CSR-onderdelen verplicht. Als u HP verzoekt deze onderdelen voor u te vervangen, worden u voor deze service reiskosten en arbeidsloon in rekening gebracht.

Reparo feito pelo cliente

Os produtos da HP são projetados com muitas peças para reparo feito pelo cliente (CSR) de modo a minimizar o tempo de reparo e permitir maior flexibilidade na substituição de peças com defeito. Se, durante o período de diagnóstico, a HP (ou fornecedores/parceiros de serviço da HP) concluir que o reparo pode ser efetuado pelo uso de uma peça CSR, a peça de reposição será enviada diretamente ao cliente. Existem duas categorias de peças CSR:

- **Obrigatória** – Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a HP substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
- **Opcional** – Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a HP as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

OBSERVAÇÃO: Algumas peças da HP não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a HP exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

Conforme a disponibilidade e o local geográfico, as peças CSR serão enviadas no primeiro dia útil após o pedido. Onde as condições geográficas permitirem, a entrega no mesmo dia ou em quatro horas pode ser feita mediante uma taxa adicional. Se precisar de auxílio, entre em contato com o Centro de suporte técnico da HP para que um técnico o ajude por telefone. A HP especifica nos materiais fornecidos com a peça CSR de reposição se a peça com defeito deve ser devolvida à HP. Nos casos em que isso for necessário, é preciso enviar a peça com defeito à HP dentro do período determinado, normalmente cinco (5) dias úteis. A peça com defeito deve ser enviada com a documentação correspondente no material de transporte fornecido. Caso não o faça, a HP poderá cobrar a reposição. Para as peças de reparo feito pelo cliente, a HP paga todas as despesas de transporte e de devolução da peça e determina a transportadora/serviço postal a ser utilizado.

Para obter mais informações sobre o programa de reparo feito pelo cliente da HP, entre em contato com o fornecedor de serviços local. Para o programa norte-americano, visite o site da HP (http://www.hp.com/go/selfrepair).

Serviço de garantia apenas para peças

A garantia limitada da HP pode incluir um serviço de garantia apenas para peças. Segundo os termos do serviço de garantia apenas para peças, a HP fornece as peças de reposição sem cobrar nenhuma taxa.

No caso desse serviço, a substituição de peças CSR é obrigatória. Se desejar que a HP substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

顧客自己修理保証サービス

修理時間を短縮し、故障部品の交換における高い柔軟性を確保するために、HP製品には多数の顧客自己修理（CSR）部品があります。診断の際に、CSR部品を使用すれば修理ができるとHP（HPまたはHP正規保守代理店）が判断した場合、HPはその部品を直接、お客様に発送し、お客様に交換していただきます。CSR部品には以下の2通りがあります。

- 必須 - 顧客自己修理が必須の部品。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。
- 任意 - 顧客自己修理が任意である部品。この部品も顧客自己修理用です。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、別途費用を負担していただくことなく保証サービスを受けることができます。

注： HP製品の一部の部品は、顧客自己修理用ではありません。製品の保証を継続するためには、HPまたはHP正規保守代理店による交換作業が必須となります。部品カタログには、当該部品が顧客自己修理除外品である旨が記載されています。

部品供給が可能な場合、地域によっては、CSR部品を翌営業日に届くように発送します。また、地域によっては、追加費用を負担いただくことにより同日または4時間以内に届くように発送することも可能な場合があります。サポートが必要なときは、HPの修理受付窓口に電話していただければ、技術者が電話でアドバイスします。交換用のCSR部品または同梱物には、故障部品をHPに返送する必要があるかどうかが表示されています。故障部品をHPに返送する必要がある場合は、指定期限内（通常は5営業日以内）に故障部品をHPに返送してください。故障部品を返送する場合は、届いた時の梱包箱に関連書類とともに入れてください。故障部品を返送しない場合、HPから部品費用が請求されます。顧客自己修理の際には、HPは送料および部品返送費を全額負担し、使用する宅配便会社や運送会社を指定します。

部品のみ保証サービス

HP保証サービスには、部品のみ保証サービスが適用される場合があります。このサービスでは、交換部品は無償で提供されます。

部品のみ保証サービスにおいては、CSR部品をお客様により交換作業していただくことが必須となります。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費はお客様の負担となります。

客户自行维修

HP 产品提供许多客户自行维修 (CSR) 部件，以尽可能缩短维修时间和在更换缺陷部件方面提供更大的灵活性。如果在诊断期间 HP（或 HP 服务提供商或服务合作伙伴）确定可以通过使用 CSR 部件完成维修，HP 将直接把该部件发送给您进行更换。有两类 CSR 部件：

- **强制性的** — 要求客户必须自行维修的部件。如果您请求 HP 更换这些部件，则必须为该服务支付差旅费和人工费用。
- **可选的** — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 HP 为您更换这些部件，则根据为您的产品指定的保修服务类型，HP 可能收取或不再收取任何附加费用。

注：某些 HP 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，HP 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

CSR 部件将在下一个工作日发运（取决于备货情况和允许的地理范围）。在允许的地理范围内，可在当天或四小时内发运，但要收取额外费用。如果需要帮助，您可以致电 HP 技术支持中心，将会有技术人员通过电话为您提供帮助。HP 会在随更换的 CSR 部件发运的材料中指明是否必须将有缺陷的部件返还给 HP。如果要求您将有缺陷的部件返还给 HP，那么您必须在规定期限内（通常是五 (5) 个工作日）将缺陷部件发给 HP。有缺陷的部件必须随所提供的发运材料中的相关文件一起返还。如果未能送还有缺陷的部件，HP 可能会要求您支付更换费用。客户自行维修时，HP 将承担所有相关运输和部件返回费用，并指定快递商/承运商。

有关 HP 客户自行维修计划的详细信息，请与您当地的服务提供商联系。有关北美地区的计划，请访问 HP 网站 (http://www.hp.com/go/selfrepair)。

仅部件保修服务

您的 HP 有限保修服务可能涉及仅部件保修服务。根据仅部件保修服务条款的规定，HP 将免费提供更换的部件。

仅部件保修服务要求进行 CSR 部件更换。如果您请求 HP 更换这些部件，则必须为该服务支付差旅费和人工费用。

客戶自行維修

HP 產品設計了許多「客戶自行維修」(CSR) 的零件以減少維修時間，並且使得更換瑕疵零件時能有更大的彈性。如果在診斷期間 HP（或 HP 服務供應商或維修夥伴）辨認出此項維修工作可以藉由使用 CSR 零件來完成，則 HP 將直接寄送該零件給您作更換。CSR 零件分為兩種類別：

- **強制的** — 客戶自行維修所使用的零件是強制性的。如果您要求 HP 更換這些零件，HP 將會向您收取此服務所需的外出費用與勞動成本。
- **選購的** — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 HP 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

備註：某些 HP 零件沒有消費者可自行維修的設計。為符合客戶保固，HP 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

基於材料取得及環境允許的情況下，CSR 零件將於下一個工作日以快遞寄送。在環境的允許下當天或四小時內送達，則可能需要額外的費用。若您需要協助，可致電「HP 技術支援中心」，會有一位技術人員透過電話來協助您。不論損壞的零件是否必須退回，HP 皆會在與 CSR 替換零件一起運送的材料中註明。若要將損壞的零件退回 HP，您必須在指定的一段時間內（通常為五 (5) 個工作天），將損壞的零件寄回 HP。損壞的零件必須與寄送資料中隨附的相關技術文件一併退還。如果無法退還損壞的零件，HP 可能要向您收取替換費用。針對客戶自行維修情形，HP 將負責所有運費及零件退還費用並指定使用何家快遞/貨運公司。

如需 HP 的「客戶自行維修」方案詳細資訊，請連絡您當地的服務供應商。至於北美方案，請參閱 HP 網站 (http://www.hp.com/go/selfrepair)。

僅限零件的保固服務

您的「HP 有限保固」可能包含僅限零件的保固服務。在僅限零件的保固服務情況下，HP 將免費提供替換零件。

針對僅限零件的保固服務，CSR 零件替換是強制性的。如果您要求 HP 更換這些零件，HP 將會向您收取此服務所需的外出費用與勞動成本。

고객 셀프 수리

HP 제품은 수리 시간을 최소화하고 결함이 있는 부품 교체 시 더욱 융통성을 발휘할 수 있도록 하기 위해 고객 셀프 수리(CSR) 부품을 다량 사용하여 설계되었습니다. 진단 기간 동안 HP(또는 HP 서비스 공급업체 또는 서비스 협력업체)에서 CSR 부품을 사용하여 수리가 가능하다고 판단되면 HP는 해당 부품을 바로 사용자에게 보내어 사용자가 교체할 수 있도록 합니다. CSR 부품에는 두 가지 종류가 있습니다.

- **고객 셀프 수리가 의무 사항인 필수 부품.** 사용자가 HP에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.
- **고객 셀프 수리가 선택 사항인 부품.** 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 HP에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

참고: 일부 HP 부품은 고객 셀프 수리가 불가능하도록 설계되었습니다. HP는 만족스러운 고객 보증을 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다. 이러한 부품들은 Illustrated Parts Catalog에 "No"라고 표시되어 있습니다.

CSR 부품은 재고 상태와 지리적 조건이 허용하는 경우 다음 영업일 납품이 가능하도록 배송이 이루어집니다. 지리적 조건이 허용하는 경우 추가 비용이 청구되는 조건으로 당일 또는 4시간 배송이 가능할 수도 있습니다. 도움이 필요하시면 HP 기술 지원 센터로 전화하십시오. 전문 기술자가 전화로 도움을 줄 것입니다. HP는 결함이 발생한 부품을 HP로 반환해야 하는지 여부를 CSR 교체 부품과 함께 배송된 자료에 지정합니다. 결함이 발생한 부품을 HP로 반환해야 하는 경우에는 지정된 기간 내(통상 영업일 기준 5일)에 HP로 반환해야 합니다. 이 때 결함이 발생한 부품은 제공된 포장 재료에 넣어 관련 설명서와 함께 반환해야 합니다. 결함이 발생한 부품을 반환하지 않는 경우 HP가 교체 부품에 대해 비용을 청구할 수 있습니다. 고객 셀프 수리의 경우, HP는 모든 운송 및 부품 반환 비용을 부담하며 이용할 운송업체 및 택배 서비스를 결정합니다.

HP 고객 셀프 수리 프로그램에 대한 자세한 내용은 가까운 서비스 제공업체에 문의하십시오. 북미 지역의 프로그램에 대해서는 HP 웹 사이트(http://www.hp.com/go/selfrepair)를 참조하십시오.

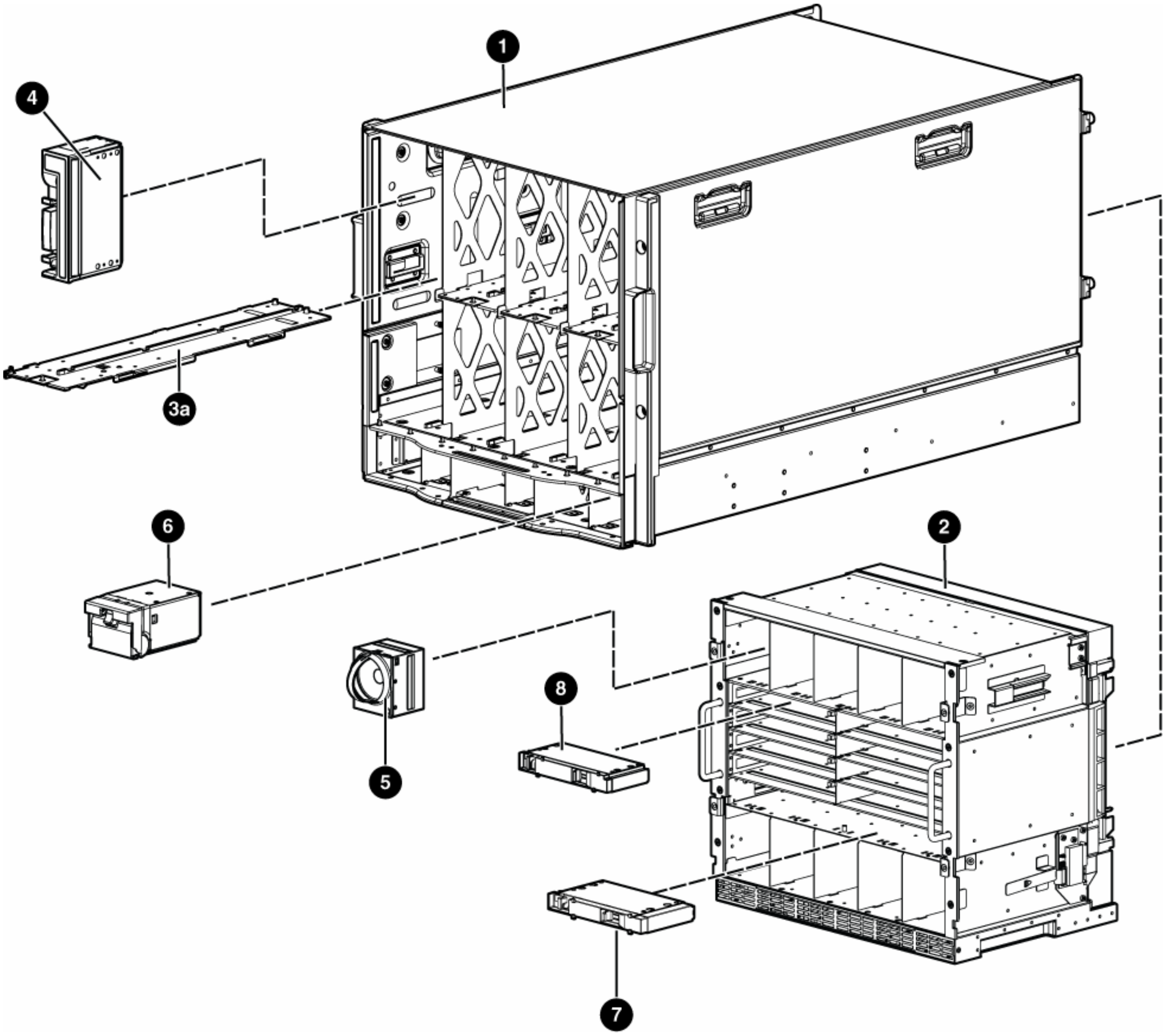
부품 제공 보증 서비스

HP 제한 보증에는 부품 제공 보증 서비스가 포함될 수 있습니다. 이러한 경우 HP는 부품 제공 보증 서비스의 조건에 따라 교체 부품만을 무료로 제공합니다.

부품 제공 보증 서비스 제공 시 CSR 부품 교체는 의무 사항입니다. 사용자가 HP에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

Illustrated parts catalog

Mechanical components



Item	Description	Spare part number	Customer self repair (on page 5)
1	HP BladeSystem c7000 enclosure	—	—
2	Rear cage	—	—
3	Hardware kit	432463-001	Mandatory[1]
	a) Device bay shelf	—	—
	b) Vertical cable cover*	—	—

Item	Description	Spare part number	Customer self repair (on page 5)
	c) Left LCD cap*	—	—
4	Device bay blank	414051-001	Mandatory[1]
5	Fan blank	414052-001	Mandatory[1]
6	Power supply blank	416043-001	Mandatory[1]
7	Onboard Administrator blank	414054-001	Mandatory[1]
8	Interconnect blank	414053-001	Mandatory[1]
9	Plastics kit*	414063-001	Mandatory[1]
	a) Left handle cover	—	—
	b) Right handle cover	—	—
	c) Screws for endcaps and handles, rear cage (10)	—	—
	d) Rear cage endcap, top	—	—
	e) Enclosure bezel ear, right	—	—
	f) Enclosure bezel ear, left	—	—

*Not shown.
[1]Mandatory—Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service.
[2]Optional—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that HP replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.
[3]No—Some HP parts are not designed for customer self repair. In order to satisfy the customer warranty, HP requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

[1]Mandatory: Obligatoire—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à HP de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
[2]Optional: Facultatif—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à HP de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.
[3]No: Non—Certaines pièces HP ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, HP exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention “Non” dans le Catalogue illustré.

[1]Mandatory: Obbligatorie—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad HP, deve sostenere le spese di spedizione e di manodopera per il servizio.
[2]Optional: Opzionali—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad HP, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.
[3]No: Non CSR—Alcuni componenti HP non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, HP richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un “No” nel Catalogo illustrato dei componenti.

[1]Mandatory: Zwingend—Teile, die im Rahmen des Customer Self Repair Programms ersetzt werden müssen. Wenn Sie diese Teile von HP ersetzen lassen, werden Ihnen die Versand- und Arbeitskosten für diesen Service berechnet.
[2]Optional: Optional—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von HP vornehmen lassen möchten,

können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.
[3]No: Kein—Einige Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem HP Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No" bzw. „Nein" gekennzeichnet.

[1]Mandatory: Obligatorio—componentes para los que la reparación por parte del usuario es obligatoria. Si solicita a HP que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
[2]Optional: Opcional— componentes para los que la reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que HP realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.
[3]No: No—Algunos componentes no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, HP pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra "No" en el catálogo ilustrado de componentes.

[1]Mandatory: Verplicht—Onderdelen waarvoor Customer Self Repair verplicht is. Als u HP verzoekt deze onderdelen te vervangen, komen de reiskosten en het arbeidsloon voor uw rekening.
[2]Optional: Optioneel—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter HP verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.
[3]No: Nee—Sommige HP onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

[1]Mandatory: Obrigatória—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a HP substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
[2]Optional: Opcional—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a HP as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.
[3]No: Nenhuma—Algumas peças da HP não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a HP exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

[1]Mandatory：必須 - 顧客自己修理が必須の部品。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。

[2]Optional：任意 - 顧客自己修理が任意である部品。この部品も顧客自己修理用です。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、費用を負担していただくことなく保証サービスを受けることができます。

[3]No：除外 - HP製品の一部の部品は、顧客自己修理用ではありません。製品の保証を継続するためには、HPまたはHP正規保守代理店による交換作業が必須となります。部品カタログには、当該部品が顧客自己修理除外品である旨が記載されています。

[1]Mandatory: 强制性的 — 要求客户必须自行维修的部件。如果您请求 HP 更换这些部件，则必须为该服务支付差旅费和人工费用。

[2]Optional: 可选的 — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 HP 为您更换这些部件，则根据为您的产品指定的保修服务类型，HP 可能收取或不再收取任何附加费用。

[3]No: 否 — 某些 HP 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，HP 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

[1]Mandatory: 強制的 — 客戶自行維修所使用的零件是強制性的。如果您要求 HP 更換這些零件，HP 將會向您收取此服務所需的外出費用與勞動成本。

[2]Optional: 選購的 — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 HP 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

[3]No: 否 — 某些 HP 零件沒有消費者可自行維修的設計。為符合客戶保固，HP 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

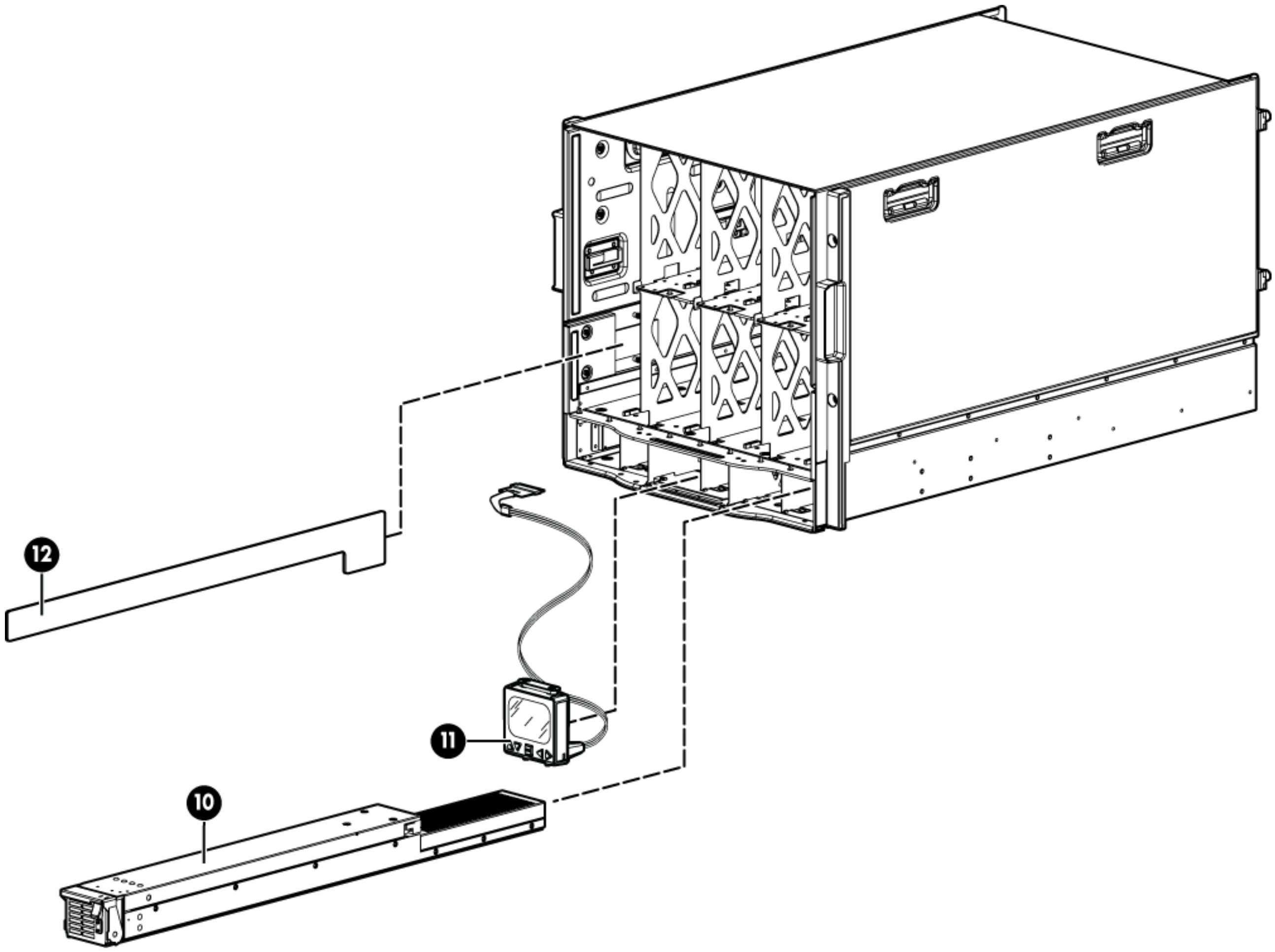
[1] Mandatory: 필수 — 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 HP에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

[2] Optional: 옵션 — 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 HP에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

[3] No: No — 고객 셀프 수리가 불가능하도록 설계된 HP 부품. 이 부품들은 고객 셀프 수리가 불가능하도록 설계되었습니다. HP는 고객 보증을 만족시키기 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다.

System components

Front system components



Item	Description	Spare part number	Customer self repair (on page 5)
10	HP BladeSystem c7000 power supply	411099-001	Mandatory[1]
11	HP BladeSystem Insight Display	—	—
	3-in Insight Display	441203-001	No[3]
	2-in Insight Display*	415839-001	No[3]
12	Insight Display front-to-rear interconnect board	432462-001	No[3]

* Not shown

[1]Mandatory—Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service.

[2]Optional—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that HP replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.

[3]No—Some HP parts are not designed for customer self repair. In order to satisfy the customer warranty, HP requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

[1]Mandatory: Obligatoire—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à HP de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
[2]Optional: Facultatif—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à HP de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.
[3]No: Non—Certaines pièces HP ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, HP exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention “Non” dans le Catalogue illustré.

[1]Mandatory: Obbligatorie—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad HP, deve sostenere le spese di spedizione e di manodopera per il servizio.
[2]Optional: Opzionali—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad HP, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.
[3]No: Non CSR—Alcuni componenti HP non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, HP richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un “No” nel Catalogo illustrato dei componenti.

[1]Mandatory: Zwingend—Teile, die im Rahmen des Customer Self Repair Programms ersetzt werden müssen. Wenn Sie diese Teile von HP ersetzen lassen, werden Ihnen die Versand- und Arbeitskosten für diesen Service berechnet.
[2]Optional: Optional—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von HP vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.
[3]No: Kein—Einige Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem HP Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

[1]Mandatory: Obligatorio—componentes para los que la reparación por parte del usuario es obligatoria. Si solicita a HP que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
[2]Optional: Opcional— componentes para los que la reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que HP realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.
[3]No: No—Algunos componentes no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, HP pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra “No” en el catálogo ilustrado de componentes.

[1]Mandatory: Verplicht—Onderdelen waarvoor Customer Self Repair verplicht is. Als u HP verzoekt deze onderdelen te vervangen, komen de reiskosten en het arbeidsloon voor uw rekening.
[2]Optional: Optioneel—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter HP verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.
[3]No: Nee—Sommige HP onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

[1]Mandatory: Obrigatória—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a HP substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.

[2]Optional: Opcional—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a HP as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.

[3]No: Nenhuma—Algumas peças da HP não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a HP exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca "No" (Não), no catálogo de peças ilustrado.

[1]Mandatory：必須 - 顧客自己修理が必須の部品。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、その修理サービスに関する交通費および人件費がお客様に請求されます。

[2]Optional：任意 - 顧客自己修理が任意である部品。この部品も顧客自己修理用です。当該部品について、もしもお客様がHPに交換作業を依頼される場合には、お買い上げの製品に適用される保証サービス内容の範囲内においては、費用を負担していただくことなく保証サービスを受けることができます。

[3]No：除外 - HP製品の一部の部品は、顧客自己修理用ではありません。製品の保証を継続するためには、HPまたはHP正規保守代理店による交換作業が必須となります。部品カタログには、当該部品が顧客自己修理除外品である旨が記載されています。

[1]Mandatory: 强制性的 — 要求客户必须自行维修的部件。如果您请求 HP 更换这些部件，则必须为该服务支付差旅费和人工费用。

[2]Optional: 可选的 — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 HP 为您更换这些部件，则根据为您的产品指定的保修服务类型，HP 可能收取或不再收取任何附加费用。

[3]No: 否 — 某些 HP 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，HP 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

[1]Mandatory: 強制的 — 客戶自行維修所使用的零件是強制性的。如果您要求 HP 更換這些零件，HP 將會向您收取此服務所需的外出費用與勞動成本。

[2]Optional: 選購的 — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 HP 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

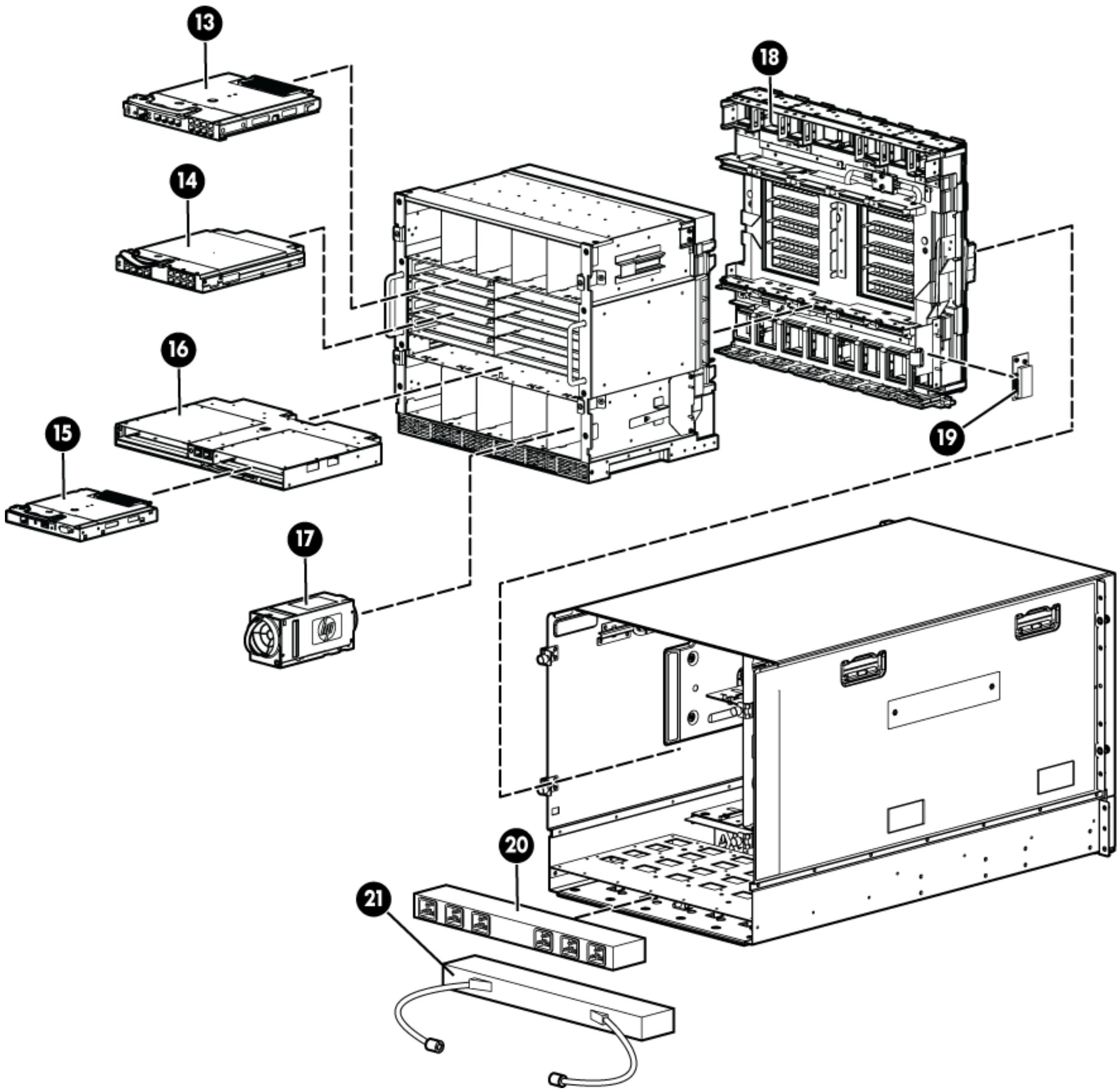
[3]No: 否 — 某些 HP 零件沒有消費者可自行維修的設計。為符合客戶保固，HP 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

[1] Mandatory: 필수 — 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 HP에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

[2] Optional: 옵션 — 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 HP에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

[3] No: No — 고객 셀프 수리가 불가능하도록 설계된 HP 부품. 이 부품들은 고객 셀프 수리가 불가능하도록 설계되었습니다. HP는 고객 보증을 만족시키기 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다.

Rear system components



Item	Description	Spare part number	Customer self repair (on page 5)
13	Interconnect module (switch)	—	—
	a) HP GbE2c Ethernet Blade Switch for HP c-Class BladeSystem	414037-001	Mandatory[1]
	b) HP GbE2c Layer 2/3 Ethernet Blade Switch for c-Class BladeSystem	438475-001	Mandatory[1]
	c) HP 10Gb Ethernet BL-c Switch	447116-001	Mandatory[1]
	d) HP 1:10Gb Ethernet BL-c Switch	438476-001	Mandatory[1]
	e) Brocade 4Gb SAN Switch for HP c-Class BladeSystem, 12 ports*	411120-001	Mandatory[1]
	f) Brocade 4Gb SAN switch for HP c-Class BladeSystem, 24 ports*	411121-001	Mandatory[1]

Item	Description	Spare part number	Customer self repair (on page 5)
	g) Brocade 4Gb SAN Switch for HP c-Class BladeSystem, 24 ports with Power Pack Software*	411122-001	Mandatory[1]
	h) Cisco Catalyst Blade Switch 3020 for HP c-Class BladeSystem*	432904-001	Mandatory[1]
	i) HP 1/10Gb Virtual Connect Ethernet Module for c-Class BladeSystem*	399725-001	Mandatory[1]
	j) HP 4Gb Virtual Connect Fibre Channel Module for c-Class BladeSystem*	410152-001	Mandatory[1]
	k) HP 4X DDR IB Switch Module for HP c-Class BladeSystem*	410408-001	Mandatory[1]
14	Interconnect module (Pass-Thru)	—	—
	a) HP 1Gb Ethernet Pass-Thru Module for c-Class BladeSystem	419329-001	Mandatory[1]
	b) HP 4 Gb Fibre Channel Pass-Thru Module for c-Class BladeSystem*	416378-001	Mandatory[1]
15	Onboard Administrator	414055-001	Mandatory[1]
16	Onboard Administrator tray	416000-001	Mandatory[1]
17	Active Cool fan	413996-001	Mandatory[1]
18	Midplane assembly	414050-001	No[3]
19	Insight Display pass-thru board	416001-001	No[3]
20	Single-phase AC input module	413494-001	Mandatory[1]
21	Three-phase AC input module, North America and Japan	413495-001	Mandatory[1]
22	Three-phase AC input module, international*	413496-001	Mandatory[1]
23	HP c-Class Blade SUV cable*	416003-001	Mandatory[1]

*Not shown
[1]Mandatory—Parts for which customer self repair is mandatory. If you request HP to replace these parts, you will be charged for the travel and labor costs of this service.
[2]Optional—Parts for which customer self repair is optional. These parts are also designed for customer self repair. If, however, you require that HP replace them for you, there may or may not be additional charges, depending on the type of warranty service designated for your product.
[3]No—Some HP parts are not designed for customer self repair. In order to satisfy the customer warranty, HP requires that an authorized service provider replace the part. These parts are identified as "No" in the Illustrated Parts Catalog.

[1]Mandatory: Obligatoire—Pièces pour lesquelles la réparation par le client est obligatoire. Si vous demandez à HP de remplacer ces pièces, les coûts de déplacement et main d'œuvre du service vous seront facturés.
[2]Optional: Facultatif—Pièces pour lesquelles la réparation par le client est facultative. Ces pièces sont également conçues pour permettre au client d'effectuer lui-même la réparation. Toutefois, si vous demandez à HP de remplacer ces pièces, l'intervention peut ou non vous être facturée, selon le type de garantie applicable à votre produit.
[3]No: Non—Certaines pièces HP ne sont pas conçues pour permettre au client d'effectuer lui-même la réparation. Pour que la garantie puisse s'appliquer, HP exige que le remplacement de la pièce soit effectué par un Mainteneur Agréé. Ces pièces sont identifiées par la mention “Non” dans le Catalogue illustré.

[1]Mandatory: Obbligatorie—Parti che devono essere necessariamente riparate dal cliente. Se il cliente ne affida la riparazione ad HP, deve sostenere le spese di spedizione e di manodopera per il servizio.
[2]Optional: Opzionali—Parti la cui riparazione da parte del cliente è facoltativa. Si tratta comunque di componenti progettati per questo scopo. Se tuttavia il cliente ne richiede la sostituzione ad HP, potrebbe dover sostenere spese addizionali a seconda del tipo di garanzia previsto per il prodotto.
[3]No: Non CSR—Alcuni componenti HP non sono progettati per la riparazione da parte del cliente. Per rispettare la garanzia, HP richiede che queste parti siano sostituite da un centro di assistenza autorizzato. Tali parti sono identificate da un “No” nel Catalogo illustrato dei componenti.

[1]Mandatory: Zwingend—Teile, die im Rahmen des Customer Self Repair Programms ersetzt werden müssen. Wenn Sie diese Teile von HP ersetzen lassen, werden Ihnen die Versand- und Arbeitskosten für diesen Service berechnet.
[2]Optional: Optional—Teile, für die das Customer Self Repair-Verfahren optional ist. Diese Teile sind auch für Customer Self Repair ausgelegt. Wenn Sie jedoch den Austausch dieser Teile von HP vornehmen lassen möchten, können bei diesem Service je nach den für Ihr Produkt vorgesehenen Garantiebedingungen zusätzliche Kosten anfallen.
[3]No: Kein—Einige Teile sind nicht für Customer Self Repair ausgelegt. Um den Garantieanspruch des Kunden zu erfüllen, muss das Teil von einem HP Servicepartner ersetzt werden. Im illustrierten Teilekatalog sind diese Teile mit „No“ bzw. „Nein“ gekennzeichnet.

[1]Mandatory: Obligatorio—componentes para los que la reparación por parte del usuario es obligatoria. Si solicita a HP que realice la sustitución de estos componentes, tendrá que hacerse cargo de los gastos de desplazamiento y de mano de obra de dicho servicio.
[2]Optional: Opcional— componentes para los que la reparación por parte del usuario es opcional. Estos componentes también están diseñados para que puedan ser reparados por el usuario. Sin embargo, si precisa que HP realice su sustitución, puede o no conllevar costes adicionales, dependiendo del tipo de servicio de garantía correspondiente al producto.
[3]No: No—Algunos componentes no están diseñados para que puedan ser reparados por el usuario. Para que el usuario haga valer su garantía, HP pone como condición que un proveedor de servicios autorizado realice la sustitución de estos componentes. Dichos componentes se identifican con la palabra “No” en el catálogo ilustrado de componentes.

[1]Mandatory: Verplicht—Onderdelen waarvoor Customer Self Repair verplicht is. Als u HP verzoekt deze onderdelen te vervangen, komen de reiskosten en het arbeidsloon voor uw rekening.
[2]Optional: Optioneel—Onderdelen waarvoor reparatie door de klant optioneel is. Ook deze onderdelen zijn ontworpen voor reparatie door de klant. Als u echter HP verzoekt deze onderdelen voor u te vervangen, kunnen daarvoor extra kosten in rekening worden gebracht, afhankelijk van het type garantieservice voor het product.
[3]No: Nee—Sommige HP onderdelen zijn niet ontwikkeld voor reparatie door de klant. In verband met de garantievoorwaarden moet het onderdeel door een geautoriseerde Service Partner worden vervangen. Deze onderdelen worden in de geïllustreerde onderdelencatalogus aangemerkt met "Nee".

[1]Mandatory: Obrigatória—Peças cujo reparo feito pelo cliente é obrigatório. Se desejar que a HP substitua essas peças, serão cobradas as despesas de transporte e mão-de-obra do serviço.
[2]Optional: Opcional—Peças cujo reparo feito pelo cliente é opcional. Essas peças também são projetadas para o reparo feito pelo cliente. No entanto, se desejar que a HP as substitua, pode haver ou não a cobrança de taxa adicional, dependendo do tipo de serviço de garantia destinado ao produto.
[3]No: Nenhuma—Algumas peças da HP não são projetadas para o reparo feito pelo cliente. A fim de cumprir a garantia do cliente, a HP exige que um técnico autorizado substitua a peça. Essas peças estão identificadas com a marca “No” (Não), no catálogo de peças ilustrado.

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[1]Mandatory: 强制性的 — 要求客户必须自行维修的部件。如果您请求 HP 更换这些部件，则必须为该服务支付差旅费和人工费用。

[2]Optional: 可选的 — 客户可以选择是否自行维修的部件。这些部件也是为客户自行维修设计的。不过，如果您要求 HP 为您更换这些部件，则根据为您的产品指定的保修服务类型，HP 可能收取或不再收取任何附加费用。

[3]No: 否 — 某些 HP 部件的设计并未考虑客户自行维修。为了满足客户保修的需要，HP 要求授权服务提供商更换相关部件。这些部件在部件图解目录中标记为“否”。

[1]Mandatory: 強制的 — 客戶自行維修所使用的零件是強制性的。如果您要求 HP 更換這些零件，HP 將會向您收取此服務所需的外出費用與勞動成本。

[2]Optional: 選購的 — 客戶自行維修所使用的零件是選購的。這些零件也設計用於客戶自行維修之用。不過，如果您要求 HP 為您更換，則可能需要也可能不需要負擔額外的費用，端視針對此產品指定的保固服務類型而定。

[3]No: 否 — 某些 HP 零件沒有消費者可自行維修的設計。為符合客戶保固，HP 需要授權的服務供應商更換零件。這些零件在圖示的零件目錄中，被標示為「否」。

[1] Mandatory: 필수 — 고객 셀프 수리가 의무 사항인 필수 부품. 사용자가 HP에 이 부품의 교체를 요청할 경우 이 서비스에 대한 출장비 및 작업비가 청구됩니다.

[2] Optional: 옵션 — 고객 셀프 수리가 선택 사항인 부품. 이 부품들도 고객 셀프 수리가 가능하도록 설계되었습니다. 하지만 사용자가 HP에 이 부품의 교체를 요청할 경우 사용자가 구입한 제품에 해당하는 보증 서비스 유형에 따라 추가 비용 없이 교체가 가능할 수 있습니다.

[3] No: No — 고객 셀프 수리가 불가능하도록 설계된 HP 부품. 이 부품들은 고객 셀프 수리가 불가능하도록 설계되었습니다. HP는 고객 보증을 만족시키기 위해 공인 서비스 제공업체를 통해 부품을 교체하도록 하고 있습니다.

Removal and replacement procedures

Required tools

The following items are required for some procedures:

- T-10 Torx screwdriver
- T-15 Torx screwdriver

Safety considerations

Before performing service procedures, review all the safety information.

Preventing electrostatic discharge

To prevent damaging the system, be aware of the precautions you need to follow when setting up the system or handling parts. A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

To prevent electrostatic damage:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

Warning and caution messages

⚠ **WARNING:** To reduce the risk of personal injury or damage to equipment, heed all warnings and cautions throughout the installation instructions.

⚠ **WARNING:** To reduce the risk of personal injury or damage to the equipment, be sure that:

- The leveling jacks are extended to the floor.
- The full weight of the rack rests on the leveling jacks.
- The stabilizing feet are attached to the rack if it is a single-rack installation.
- The racks are coupled together in multiple-rack installations.
- Only one component is extended at a time. A rack may become unstable if more than one component is extended for any reason.

⚠ **WARNING:** To reduce the risk of personal injury or equipment damage when unloading a rack:

- At least two people are needed to safely unload the rack from the pallet. An empty 42U rack can weigh as much as 115 kg (253 lb), can stand more than 2.1 m (7 ft) tall, and may become unstable when being moved on its casters.
- Never stand in front of the rack when it is rolling down the ramp from the pallet. Always handle the rack from both sides.

⚠ **WARNING:** The enclosure is very heavy. To reduce the risk of personal injury or damage to the equipment:

- Observe local occupational health and safety requirements and guidelines for manual material handling.
- Remove all installed enclosure components from their enclosures before installing or moving the enclosures.
- Use caution and get help to lift and stabilize enclosures during installation or removal, especially when the enclosure is not fastened to the rack.

⚠ **WARNING:** To reduce the risk of personal injury or damage to the equipment in a rack-free environment:

- Never stack an enclosure on top of another enclosure.
- Never place equipment on top of an enclosure.
- Never place an enclosure on a surface that cannot support up to 217.7 kg (480.0 lb).

⚠ **WARNING:** To reduce the risk of personal injury or damage to the equipment, you must adequately support enclosures during installation and removal.

⚠ **WARNING:** Always use at least two people to lift an enclosure into the rack. If the enclosure is being loaded into the rack above chest level, a third person must assist with aligning the enclosure with the rails while the other two people support the weight of the enclosure.

⚠ **WARNING:** Before installing an enclosure in the rack, be sure that all hot-plug power supplies, server blades, and interconnects are removed from the enclosure. Blanks can be left in the enclosure.

⚠ **WARNING:** Be sure to install enclosures starting from the bottom of the rack and work your way up the rack.



These symbols, on power supplies or systems, indicate that the equipment is supplied by multiple sources of power.

WARNING: To reduce the risk of injury from electric shock, remove all power cords to completely disconnect power from the system.

- Each enclosure has two or more power supply cords. A single rack or cabinet may contain more than one enclosure. Power may be supplied in a redundant fashion. Removing any single source of power does not necessarily remove power from any portion of the system. When performing any service other than hot-plug module replacement, you must completely disconnect all power to that portion of the system.
- When performing service procedures on enclosures, shut off the circuit breakers to both A and B AC power feeds and then disconnect all power cords from the outlets before servicing.

WARNING: To reduce the risk of personal injury from hot surfaces, allow the drives and the internal system components to cool before touching them.

WARNING: To reduce the risk of electric shock or damage to the equipment, enter enclosures or perform service on system components only as instructed in the user documentation.

WARNING: A risk of electric shock from high leakage current exists. Before connecting the AC supply to the power enclosures, be sure that the electrical outlets are properly grounded (earthed).

CAUTION: Always be sure that equipment is properly grounded and that you follow proper grounding procedures before beginning any installation procedure. Improper grounding can result in ESD damage to electronic components. For more information, see "Preventing electrostatic discharge (on page 27)."

CAUTION: When performing non-hot-plug operations, you must power down the server blade and/or the system. Use caution when performing other operations, such as hot-plug installations or troubleshooting.

CAUTION: Protect the equipment from AC power fluctuations and temporary interruptions with a regulating facility UPS device. This device protects the hardware from damage caused by power surges and voltage spikes and keeps the system in operation during a power failure.

Power down the server blade

Before powering down the server blade for any upgrade or maintenance procedures, perform a backup of critical server data and programs.

Depending on the Onboard Administrator configuration, use one of the following methods to power down the server blade:

- Use a virtual power button selection through iLO 2.

  This method initiates a controlled remote shutdown of applications and the OS before the server blade enters standby mode.

- Press and release the Power On/Standby button.

  This method initiates a controlled shutdown of applications and the OS before the server blade enters standby mode.
- Press and hold the Power On/Standby button for more than 4 seconds to force the server blade to shut down.

  This method forces the server blade to enter standby mode without properly exiting applications and the OS. It provides an emergency shutdown method in the event of a hung application.

IMPORTANT: When the server blade is in standby mode, auxiliary power is still being provided. To remove all power from the server blade, remove the server blade from the enclosure.

After initiating a virtual power down command, be sure that the server blade goes into standby mode by observing that the system power LED is amber.

Power down the enclosure

1. Power down the server blades ("Power down the server blade" on page 29).
2. Disconnect all AC power cables.

HP BladeSystem c7000 power supply or power supply blank

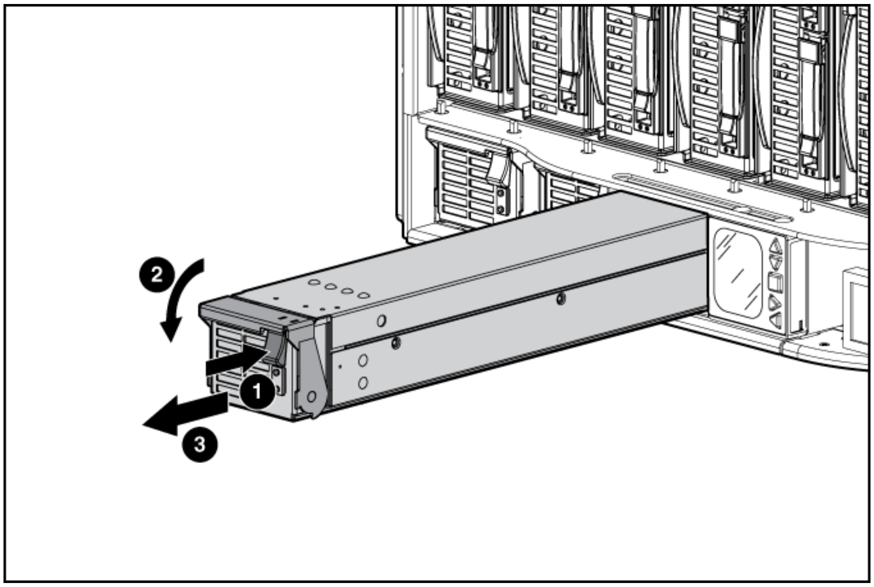
To remove the component:

CAUTION: This procedure provides instructions for replacement of a failed part only. To change the configuration of components, see the appropriate HP BladeSystem c-Class enclosure setup and installation guide.

NOTE: To access all power supply bays, slide the HP BladeSystem Insight Display to the right or left.

1. Press the release button.
2. Pull down the handle.

3. Remove the power supply or the power supply blank.

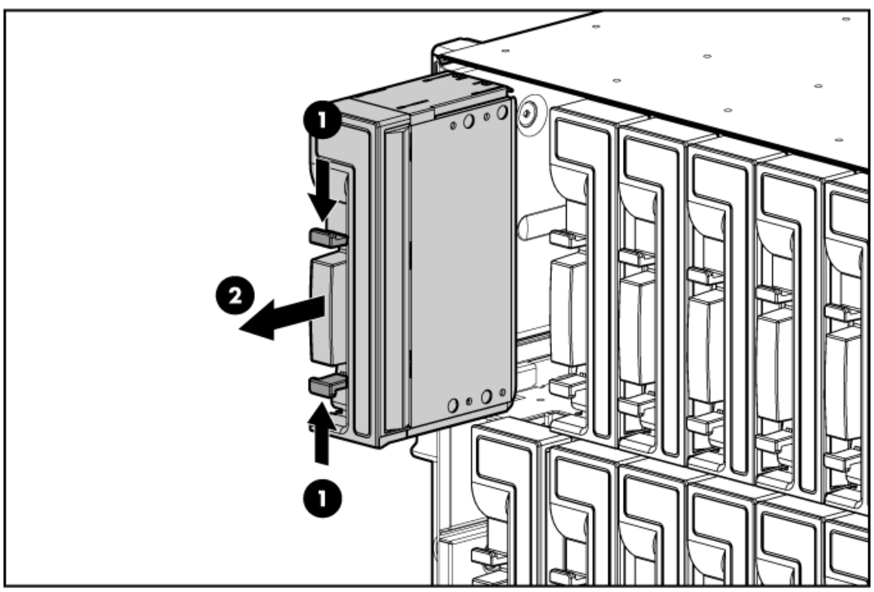


△ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

Device bay blank

Remove the component as indicated.



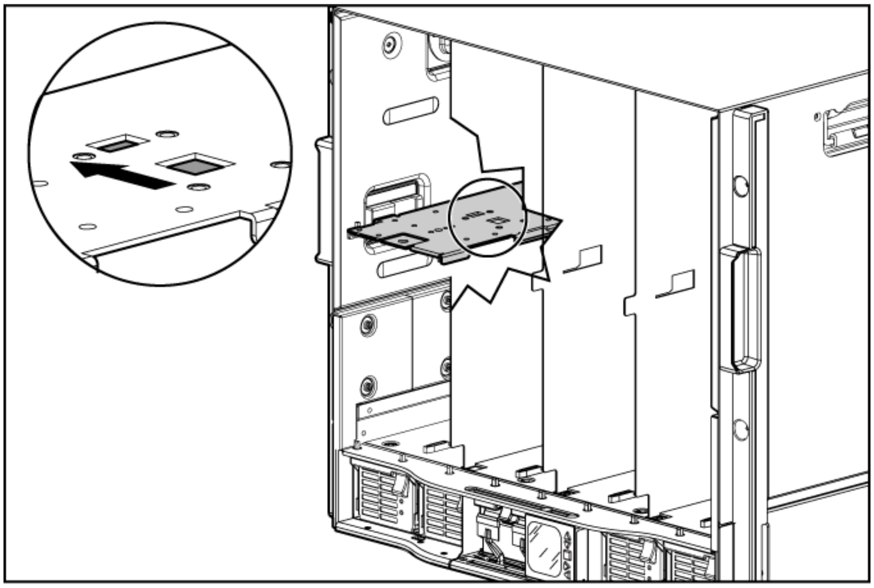
△ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

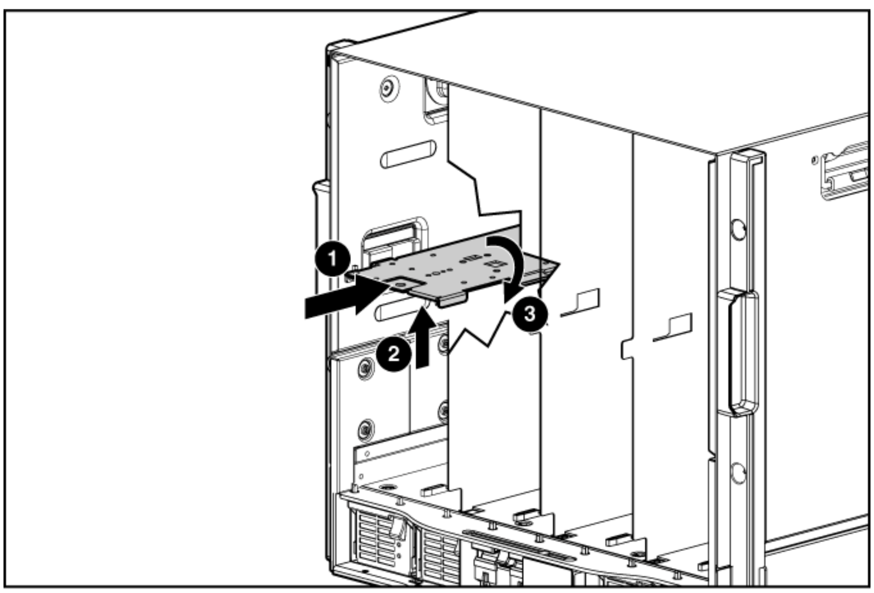
Device bay shelf

To remove the component:

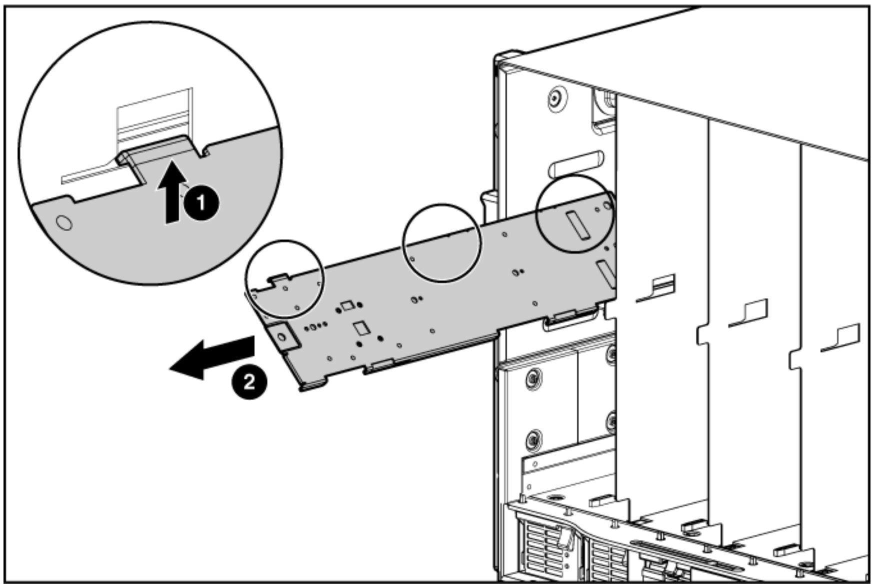
1. Remove any components in the device bays:
   - Device bay blank (on page 31)
   - Half-height or full-height blade (on page 33)
2. Slide the device bay shelf locking tab to the left to open it.



3. Push the device bay shelf back until it stops, lift the right side slightly to disengage the two tabs from the divider wall, and then rotate the right edge downward (clockwise).



4. Lift the left side of the device bay shelf to disengage the three tabs from the divider wall, and then remove it from the enclosure.



To replace the component, reverse the removal procedure.

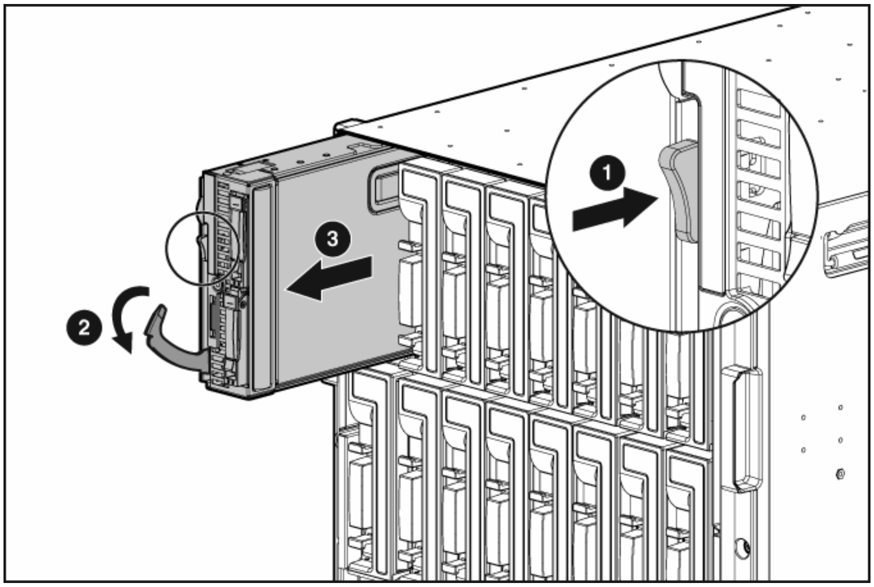
Half-height or full-height blade

> **CAUTION:** This procedure provides instructions for replacement of a failed part only. To change the configuration of components, see the appropriate HP BladeSystem c-Class enclosure setup and installation guide.

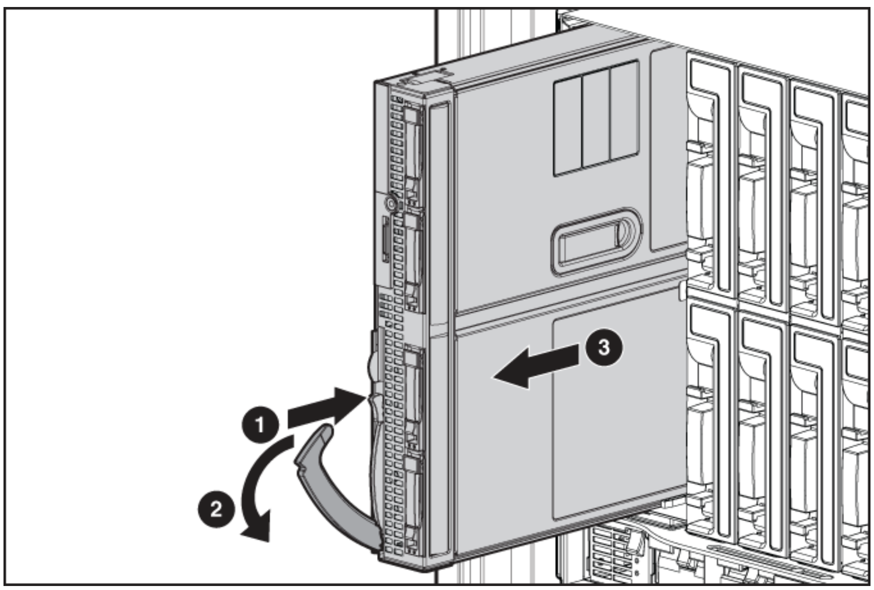
To remove the component:

1. Identify the proper half-height or full-height blade in the enclosure ("Device bay numbering" on page 56).
2. Back up all data.
3. Power down the half-height or full-height blade ("Power down the server blade" on page 29).
4. Remove the blade:

- Half-height blade



- Full-height blade



> **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

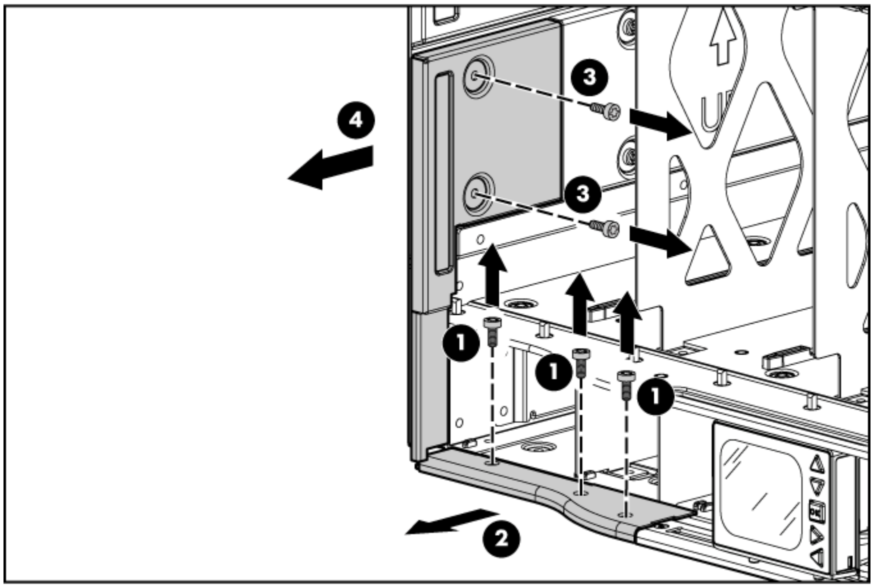
HP BladeSystem Insight Display

To remove the component:

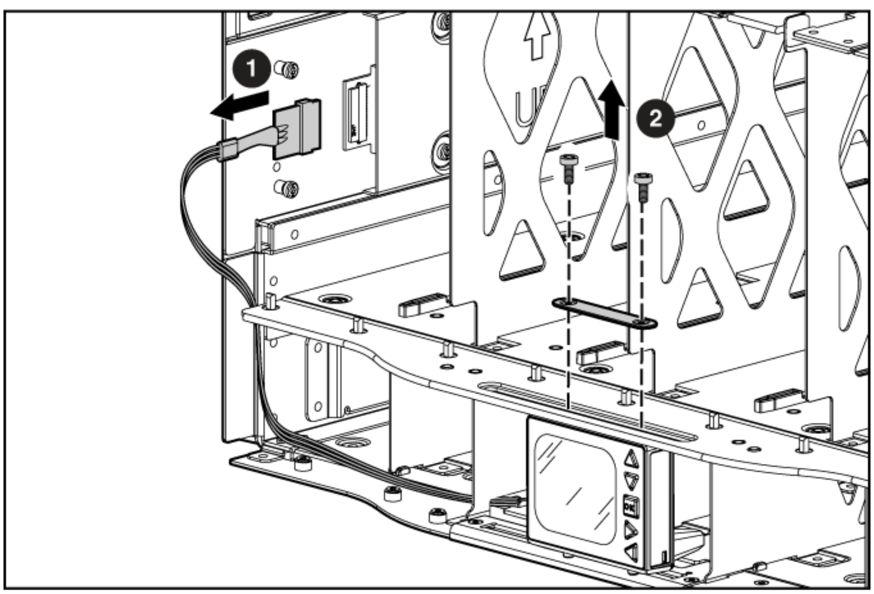
1. Power down the enclosure (on page 30).
2. Remove the following components:
   - Half-height blades: bays 9-13 ("Half-height or full-height blade" on page 33)

- Full-height blades: bays 1-5 ("Half-height or full-height blade" on page 33)
- Device bay blanks: bays 9-13 ("Device bay blank" on page 31)
- Power supplies or blanks: bays 1-4 ("HP BladeSystem c7000 power supply or power supply blank" on page 30)

3. Remove the three T-10 Torx screws that secure the Insight Display cable center cover, and then remove the cover.
4. Remove the two T-10 Torx screws that secure the Insight Display cable contour cover, and then remove the cover.

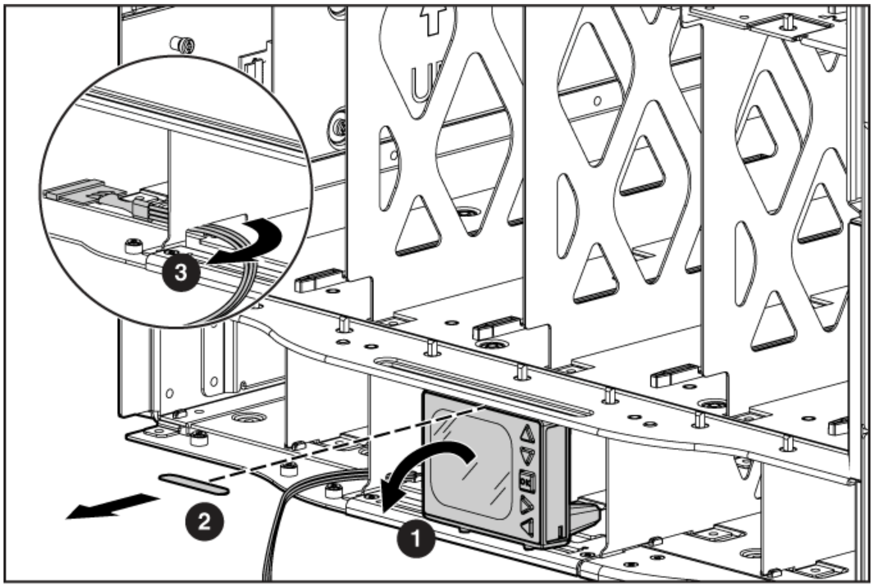


5. Disconnect the Insight Display cable.
6. Remove the two T-10 Torx screws that secure the Insight Display.
7. Remove the upper brace.



8. Tilt the Insight Display forward and remove it from the enclosure.

9. Carefully remove the Insight Display cable through the cable channel.

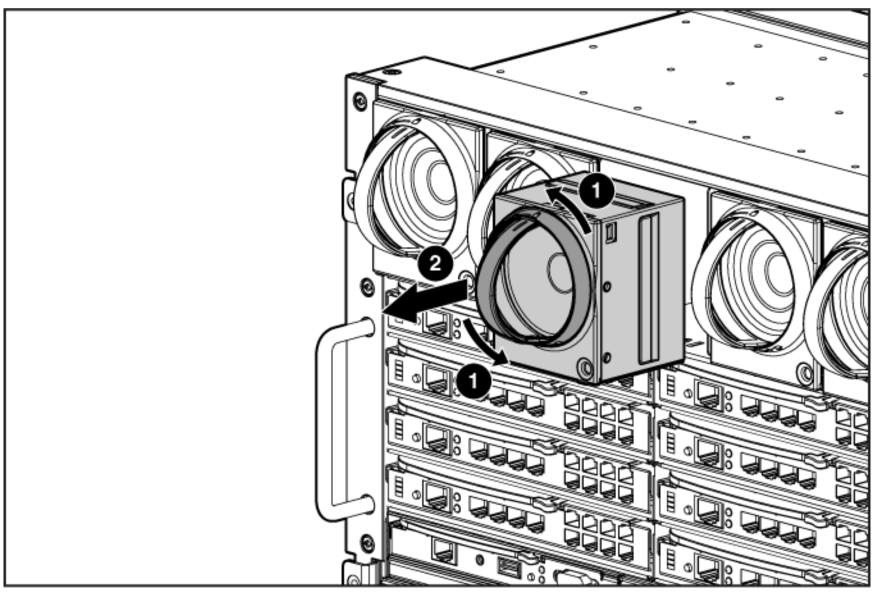


To replace the component, reverse the removal procedure.

Fan blank

To remove the component:

1. Turn the handle counterclockwise.
2. Remove the blank.



△ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

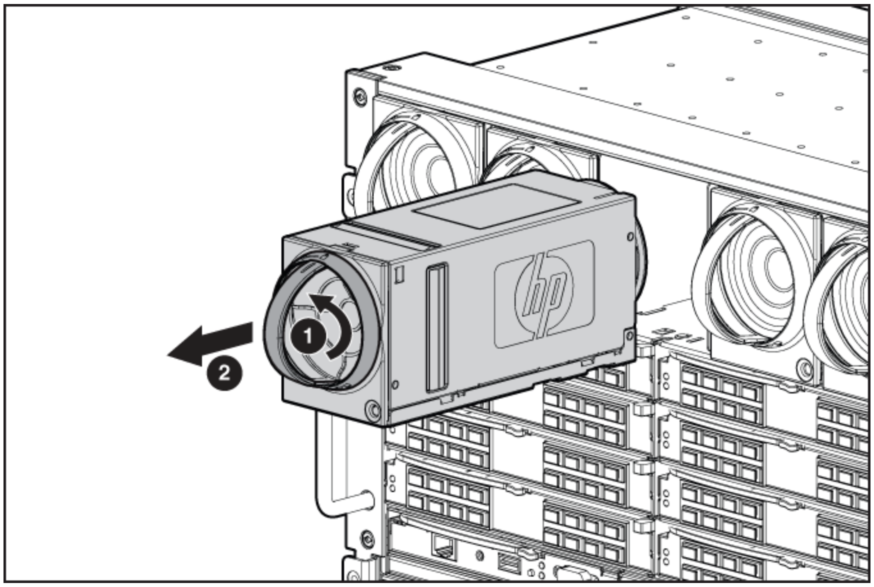
To replace the component, reverse the removal procedure.

Active Cool fan

△ **CAUTION:** This procedure provides instructions for replacement of a failed part only. To change the configuration of components, see the appropriate HP BladeSystem c-Class enclosure setup and installation guide.

To remove the component:

1. Turn the handle counterclockwise.
2. Remove the fan.



△ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

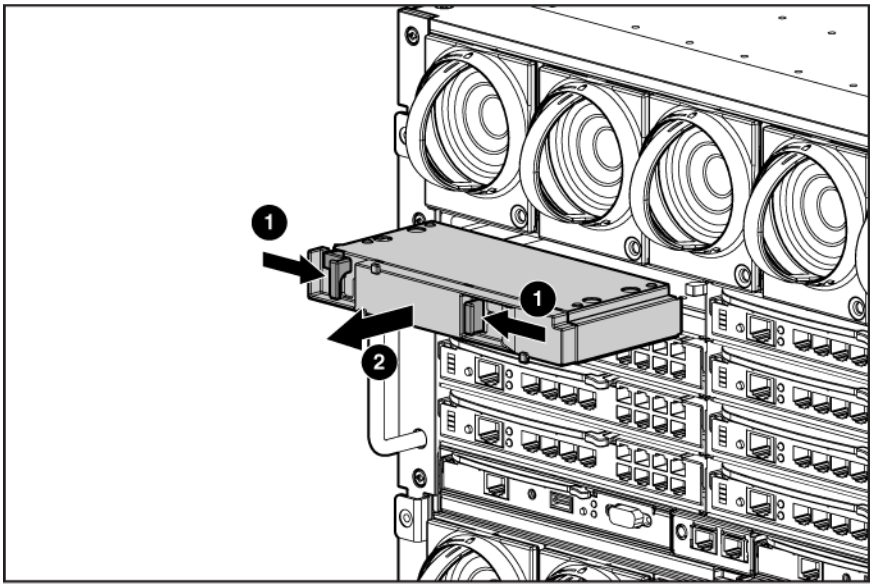
When installing the bottom fans, invert them so that the fan LED is in the top left corner.

Interconnect blank

To remove the component:

1. Press the release tabs.

2. Remove the blank.



> **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, slide the component into the bay until it locks into place.

Interconnect switch or Pass-Thru module

> **CAUTION:** This procedure provides instructions for replacement of a failed part only. To change the configuration of components, see the appropriate HP BladeSystem c-Class enclosure setup and installation guide.

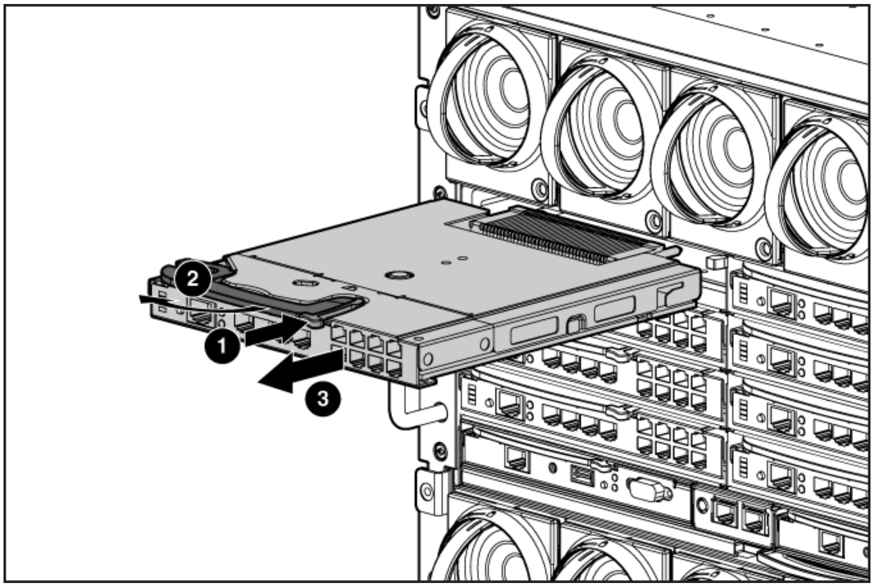
To remove the component:

> **CAUTION:** To prevent data loss, redirect network activity or be sure that all critical network activity has stopped before removing the interconnect module.

> **IMPORTANT:** A port must be occupied by an SFP transceiver or an SFP dust cover at all times.

1. Disconnect all cables from the component.
2. Press the release tab.
3. Open the handle.

4. Remove the interconnect switch or Pass-Thru module.



> **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

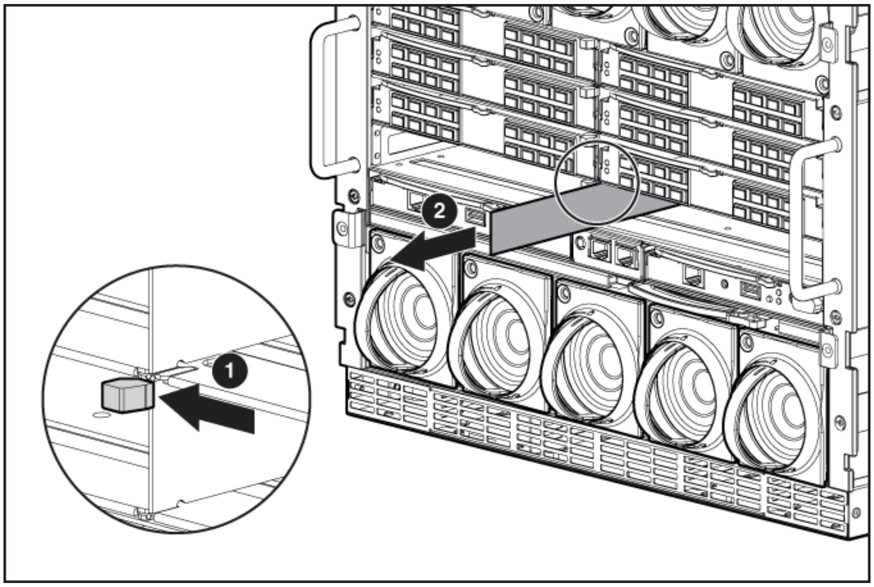
To replace the component, reverse the removal procedure.

Interconnect bay dividers

To remove the component:

1. Remove the interconnect switches and Pass-Thru modules ("Interconnect switch or Pass-Thru module" on page 38).
2. Remove the interconnect blanks ("Interconnect blank" on page 37).
3. Press the release tab.

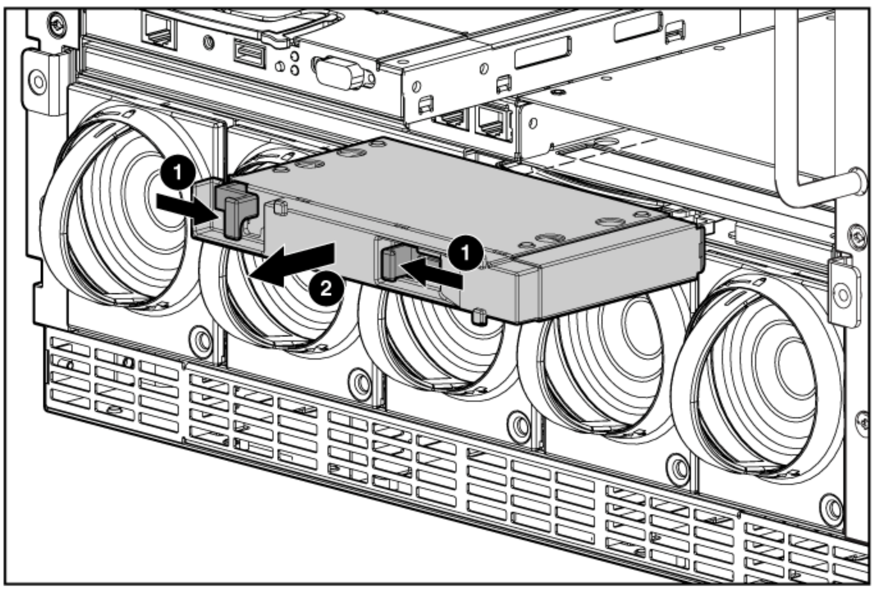
4. Remove the interconnect bay divider.



To replace the component, reverse the removal procedure.

Onboard Administrator blank

Remove the component as indicated.



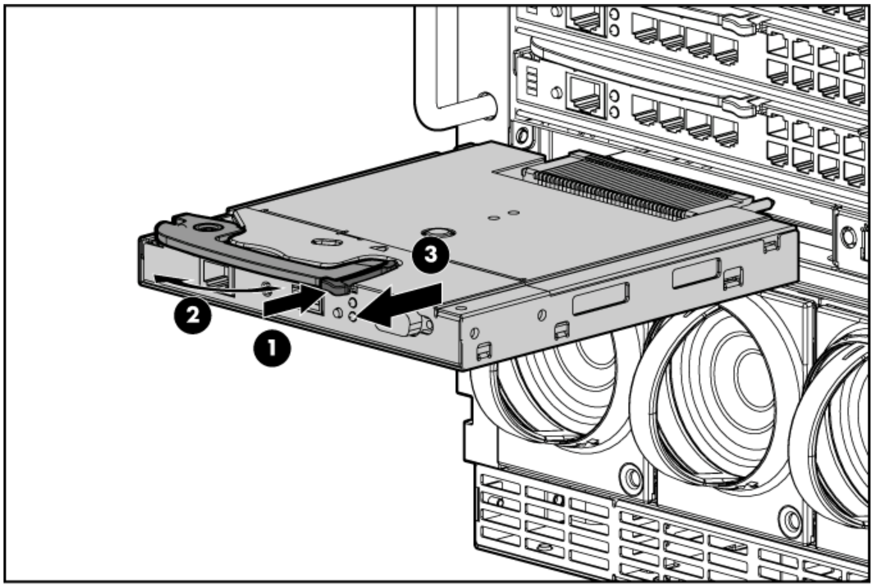
> △ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

Onboard Administrator

To remove the component:

1. Disconnect all cables from the component.
2. Press the release tab and open the the handle.
3. Remove the Onboard Administrator module.



> **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

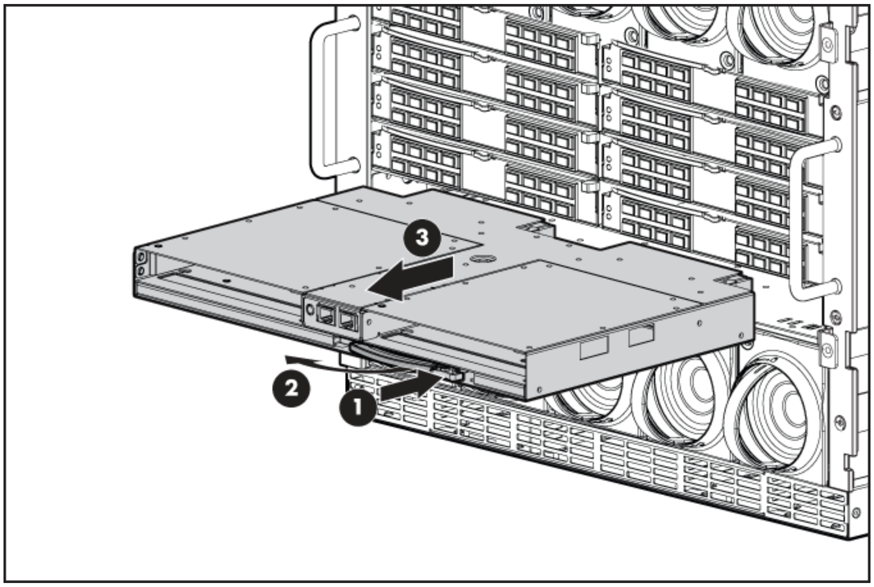
To replace the component, reverse the removal procedure.

Onboard Administrator tray

To remove the component:

1. Remove the Onboard Administrator modules ("Onboard Administrator" on page 41).
2. Remove the Onboard Administrator blanks ("Onboard Administrator blank" on page 40).
3. Press the release tab and open the handle.

4. Remove the Onboard Administrator tray.



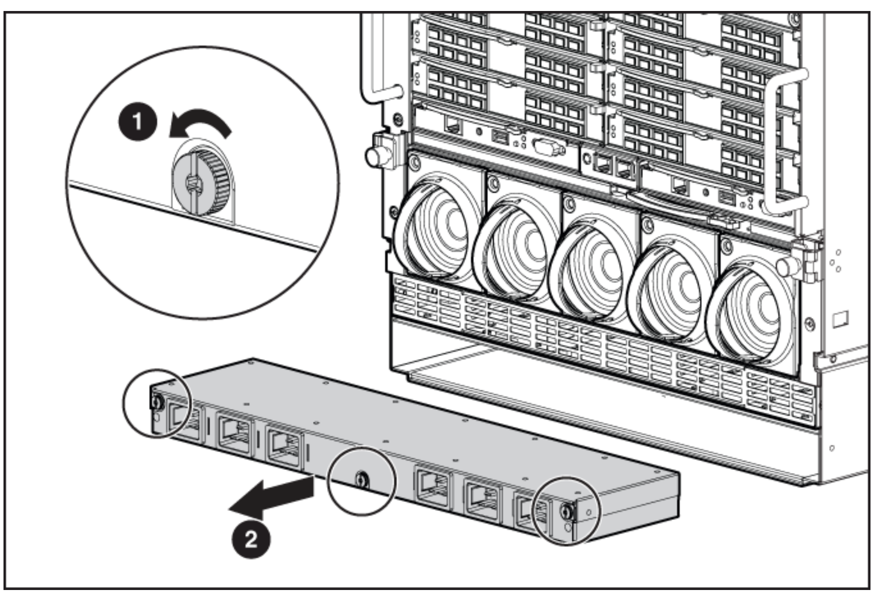
> △ **CAUTION:** For best cooling practices, do not operate the enclosure for extended periods with more than one component or blank removed. When removing an active component, replace it with a blank.

To replace the component, reverse the removal procedure.

AC input module

To remove the component:

1. Power down the server blades ("Power down the server blade" on page 29).
2. Power down the enclosure (on page 30).
3. Loosen the three slotted T-15 Torx screws that secure the AC input module.
4. Remove the AC input module.



To replace the component, reverse the removal procedure.

Rear cage

> **WARNING:** To reduce the risk of damage to the midplane and component connectors, always remove or disengage and extend all blades and power supplies 7.62 cm (3 in) before removing or installing the rear cage.

> **WARNING:** To reduce the risk of personal injury or equipment damage, at least two people are needed to safely move the rear cage.

> **IMPORTANT:** When removing components from the rear cage, note their position for later replacement.

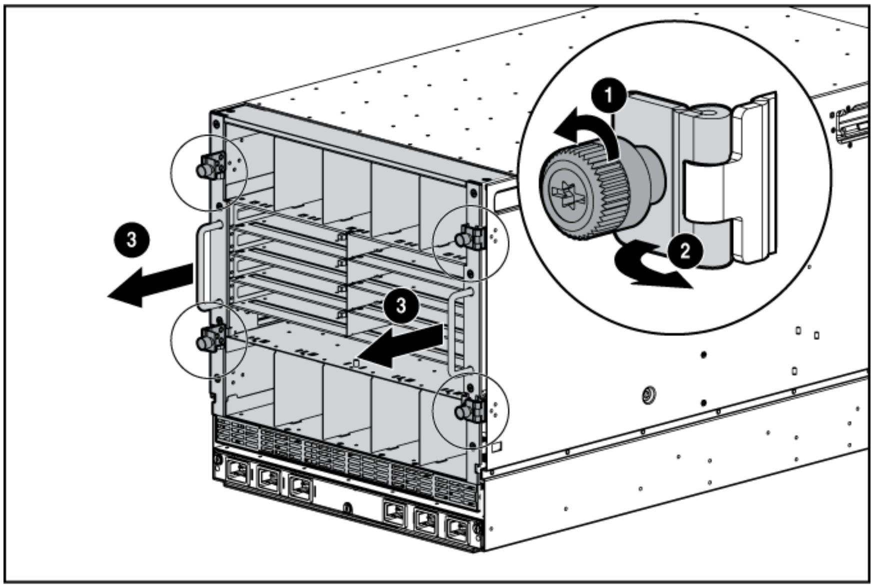
To remove the component:

1. Power down the server blades ("Power down the server blade" on page 29).
2. Power down the enclosure (on page 30).
3. Disconnect all cables.
4. Disengage and extend the following components approximately 7.62 cm (3 in):
   - Half-height and full-height blades ("Half-height or full-height blade" on page 33)
   - Power supplies ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
   - Power supply blanks ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
5. Remove the fans ("Active Cool fan" on page 37).
6. Remove the fan blanks ("Fan blank" on page 36).
7. Remove the interconnect switches and Pass-Thru modules ("Interconnect switch or Pass-Thru module" on page 38).
8. Remove the interconnect blanks ("Interconnect blank" on page 37).
9. Remove the Onboard Administrator tray ("Onboard Administrator tray" on page 41).

   For this procedure, you can remove the Onboard Administrator tray with the Onboard Administrator modules or blanks installed.
10. Remove the rear cage:

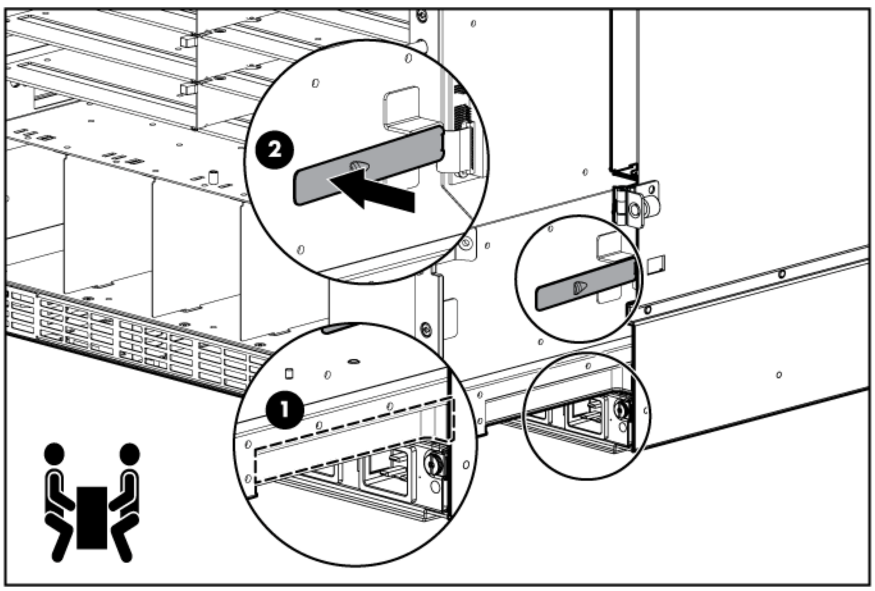
    a. Loosen the thumbscrews and open the hinges completely.

b. Use the handles to extend the rear cage until the release levers engage on both sides of the rear cage.



c. Grasp the handholds below the release levers.

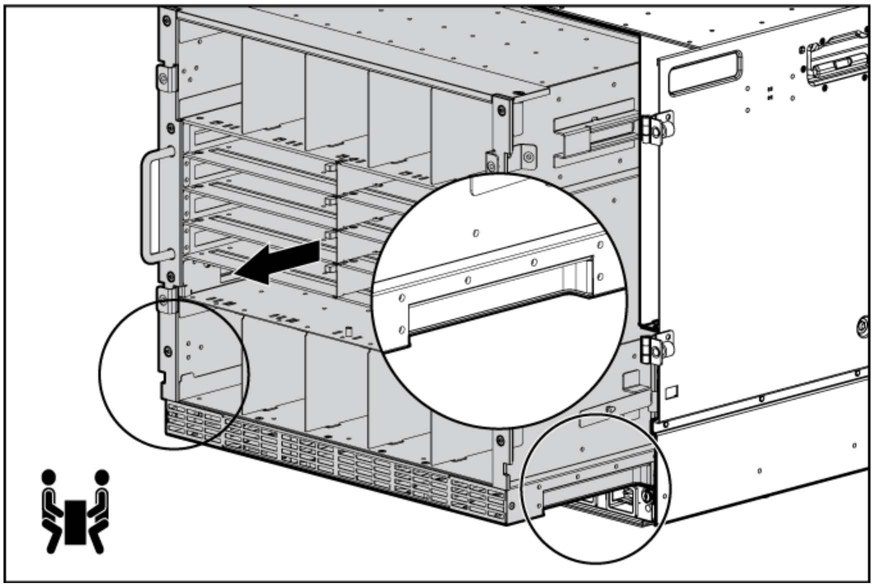
d. Disengage the release levers on both sides of the rear cage.



> **CAUTION:** When removing and lifting the rear cage, always grasp the handholds as far forward as possible. The front end of the rear cage is heavy and the handholds provide a more balanced location to distribute the weight of the cage during lifting.

> **CAUTION:** When removing the rear cage and midplane assembly, the connectors on the midplane assembly are susceptible to damage. Use caution to avoid damage to the pins and connectors.

e. Use the handholds to extend and remove the rear cage from the enclosure.



To replace the component, reverse the removal procedure.

Insight Display front-to-rear interconnect board

⚠ **WARNING:** To reduce the risk of damage to the midplane and component connectors, always remove or disengage and extend all blades and power supplies 7.62 cm (3 in) before removing or installing the rear cage.

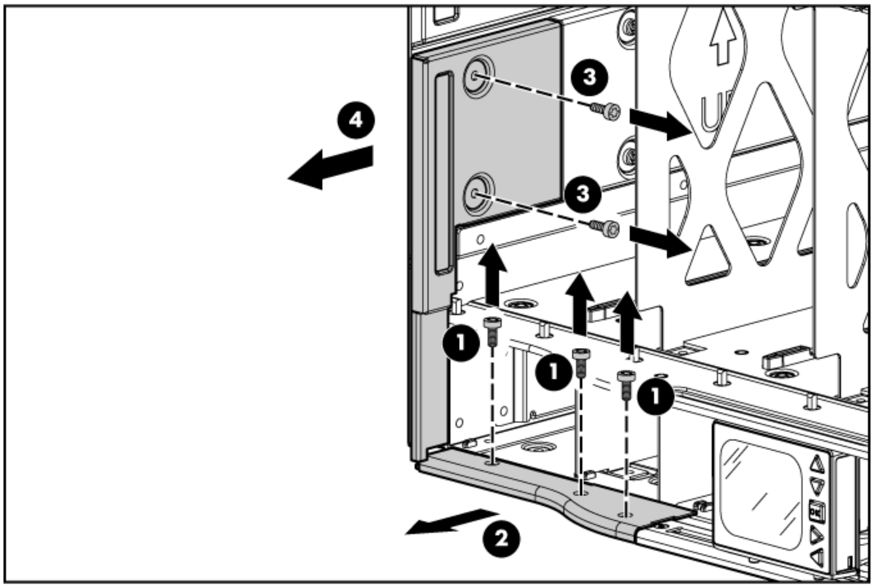
To remove the component:

1. Power down the server blades ("Power down the server blade" on page 29).
2. Power down the enclosure (on page 30).
3. Disconnect all cables.
4. Remove the half-height and full-height blades ("Half-height or full-height blade" on page 33).
5. Remove the device bay blanks ("Device bay blank" on page 31).
6. Remove the power supplies and power supply blanks ("HP BladeSystem c7000 power supply or power supply blank" on page 30).
7. Remove the fans ("Active Cool fan" on page 37).
8. Remove the fan blanks ("Fan blank" on page 36).
9. Remove the interconnect switches and Pass-Thru modules ("Interconnect switch or Pass-Thru module" on page 38).
10. Remove the interconnect blanks ("Interconnect blank" on page 37).
11. Remove the Onboard Administrator tray ("Onboard Administrator tray" on page 41).

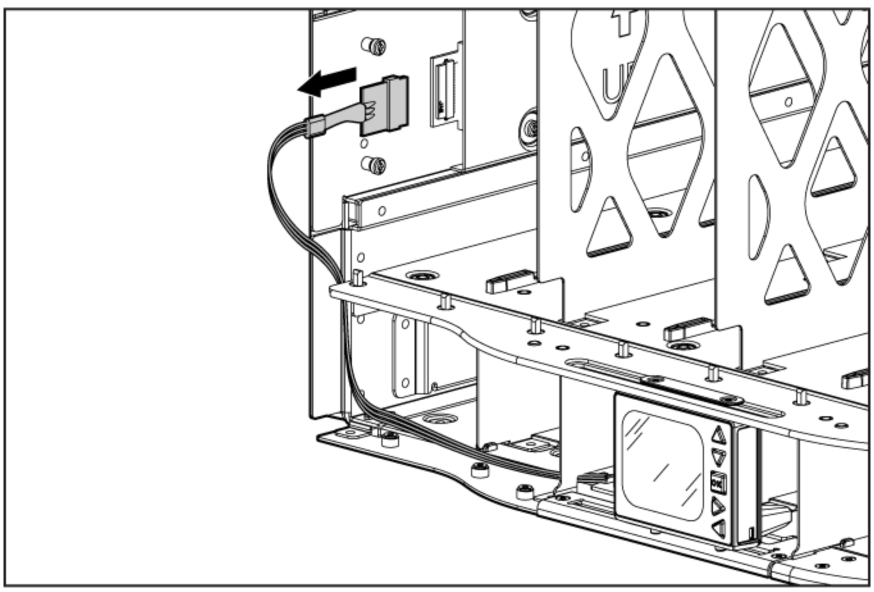
    For this procedure, you can remove the Onboard Administrator tray with the Onboard Administrator modules or blanks installed.
12. Remove the rear cage ("Rear cage" on page 43).

⚠ **WARNING:** To reduce the risk of personal injury or equipment damage, at least two people are needed to safely move the rear cage.

13. Remove the three T-10 Torx screws that secure the Insight Display cable center cover, and then remove the cover.
14. Remove the two T-10 Torx screws that secure the Insight Display cable contour cover, and then remove the cover.

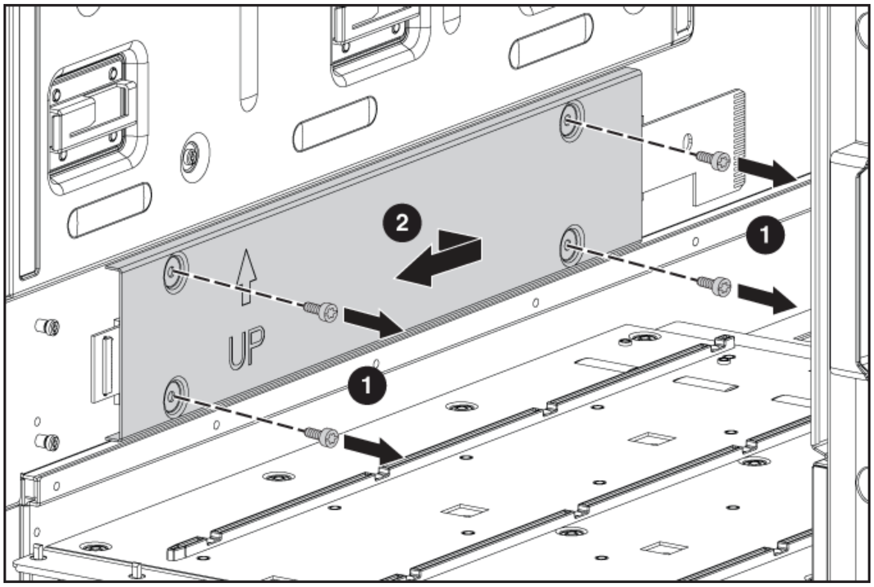


15. Disconnect the Insight Display cable.

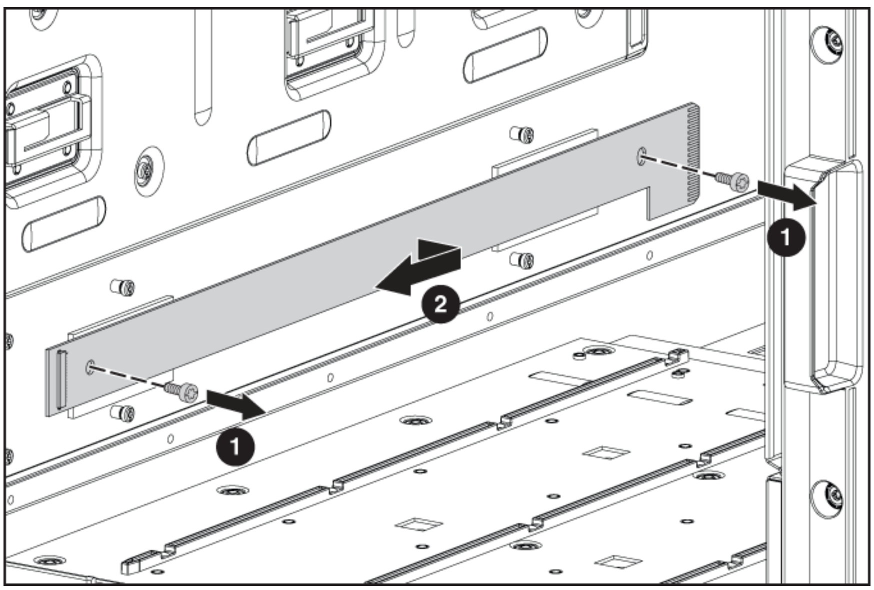


16. Remove the four T-15 Torx screws that secure the interconnect board cover, and then remove the cover.

NOTE: The device bay walls have been removed for clarity.



17. Remove the two slotted T-15 Torx screws that secure the interconnect board.
18. Remove the interconnect board.



To replace the component, reverse the removal procedure.

Insight Display signal pass-thru board

⚠ **WARNING:** To reduce the risk of damage to the midplane and component connectors, always remove or disengage and extend all blades and power supplies 7.62 cm (3 in) before removing or installing the rear cage.

To remove the component:

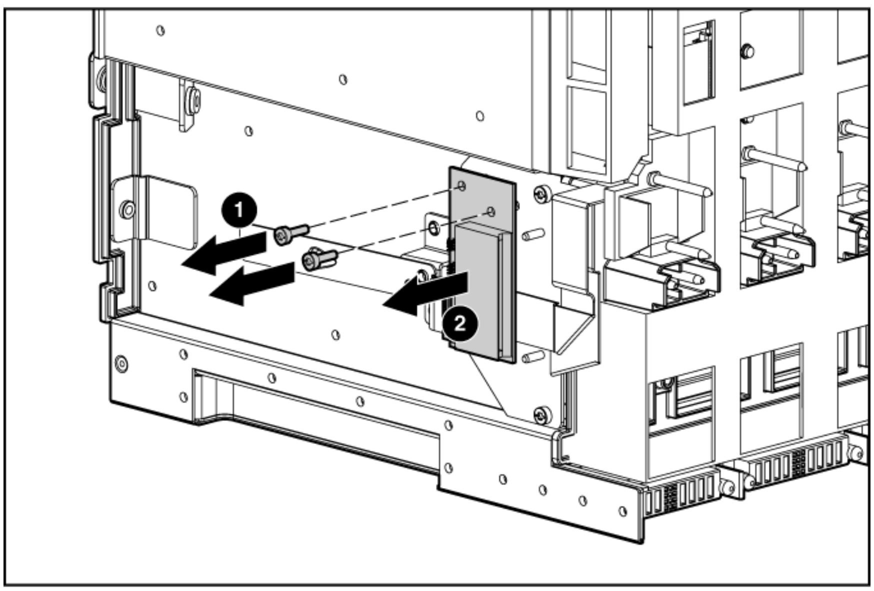
1. Power down the server blades ("Power down the server blade" on page 29).
2. Power down the enclosure (on page 30).
3. Disconnect all cables.

4. Disengage and extend the following components approximately 7.62 cm (3 in):
   - Half-height and full-height blades ("Half-height or full-height blade" on page 33)
   - Power supplies ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
   - Power supply blanks ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
5. Remove the fans ("Active Cool fan" on page 37).
6. Remove the fan blanks ("Fan blank" on page 36).
7. Remove the interconnect switches and Pass-Thru modules ("Interconnect switch or Pass-Thru module" on page 38).
8. Remove the interconnect blanks ("Interconnect blank" on page 37).
9. Remove the Onboard Administrator tray ("Onboard Administrator tray" on page 41).

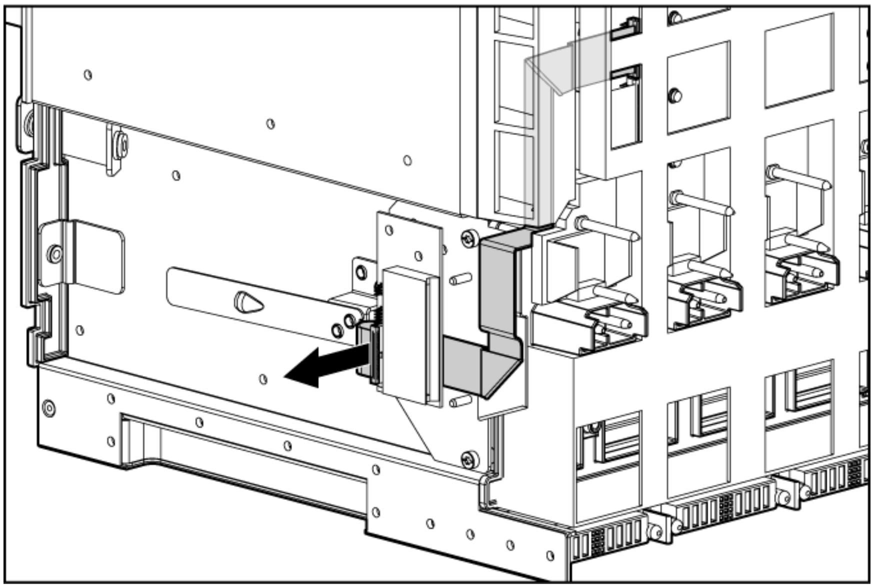
   For this procedure, you can remove the Onboard Administrator tray with the Onboard Administrator modules or blanks installed.
10. Remove the rear cage ("Rear cage" on page 43).

> ⚠ **WARNING:** To reduce the risk of personal injury or equipment damage, at least two people are needed to safely move the rear cage.

11. Remove the two T-15 Torx screws that secure the pass-thru board.



12. Disconnect the pass-thru board from the cable.



To replace the component, reverse the removal procedure.

Midplane assembly

> ⚠ **WARNING:** To reduce the risk of damage to the midplane and component connectors, always remove or disengage and extend all blades and power supplies 7.62 cm (3 in) before removing or installing the rear cage.

To remove the component:

1. Power down the server blades ("Power down the server blade" on page 29).
2. Power down the enclosure (on page 30).
3. Disconnect all cables.
4. Disengage and extend the following components approximately 7.62 cm (3 in):
   - Half-height and full-height blades ("Half-height or full-height blade" on page 33)
   - Power supplies ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
   - Power supply blanks ("HP BladeSystem c7000 power supply or power supply blank" on page 30)
5. Remove the fans ("Active Cool fan" on page 37).
6. Remove the fan blanks ("Fan blank" on page 36).
7. Remove the interconnect switches and Pass-Thru modules ("Interconnect switch or Pass-Thru module" on page 38).
8. Remove the interconnect blanks ("Interconnect blank" on page 37).
9. Remove the Onboard Administrator tray ("Onboard Administrator tray" on page 41).

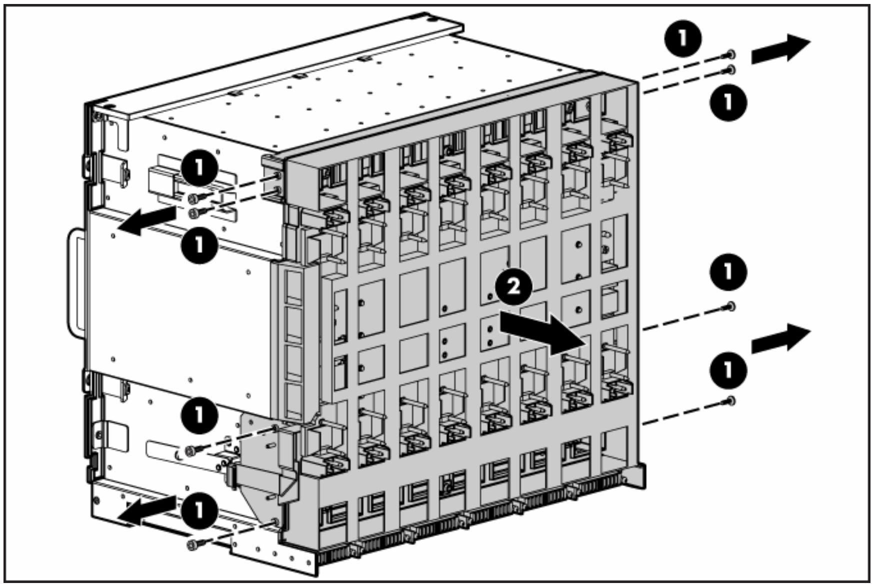
   For this procedure, you can remove the Onboard Administrator tray with the Onboard Administrator modules or blanks installed.

CAUTION: When removing the rear cage and midplane assembly, the connectors on the midplane assembly are susceptible to damage. Use caution to avoid damage to the pins and connectors.

10. Remove the rear cage ("Rear cage" on page 43).
11. Remove the Insight Display signal pass-thru board ("Insight Display signal pass-thru board" on page 47).

WARNING: To reduce the risk of personal injury or equipment damage, at least two people are needed to safely move the rear cage.

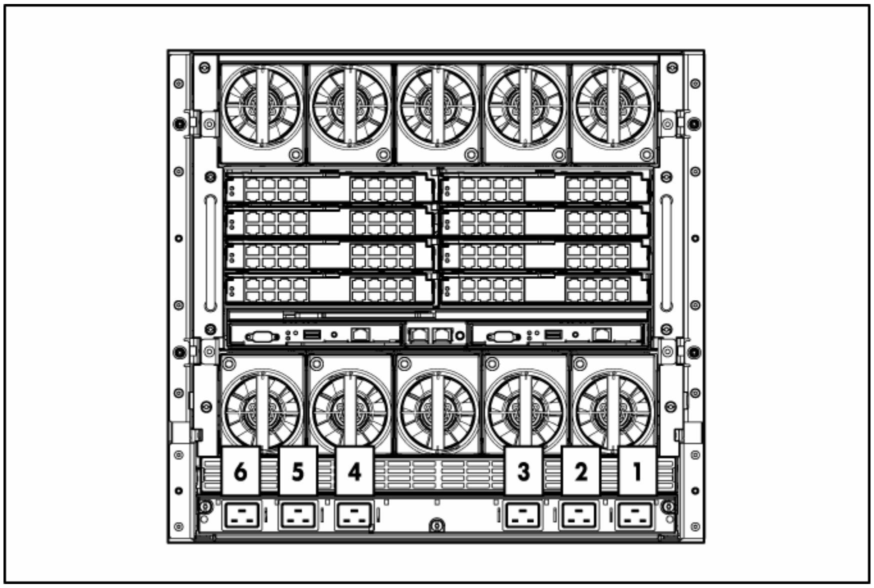
12. Remove the eight slotted T-15 Torx screws that secure the midplane assembly.
13. Remove the midplane assembly from the rear cage.



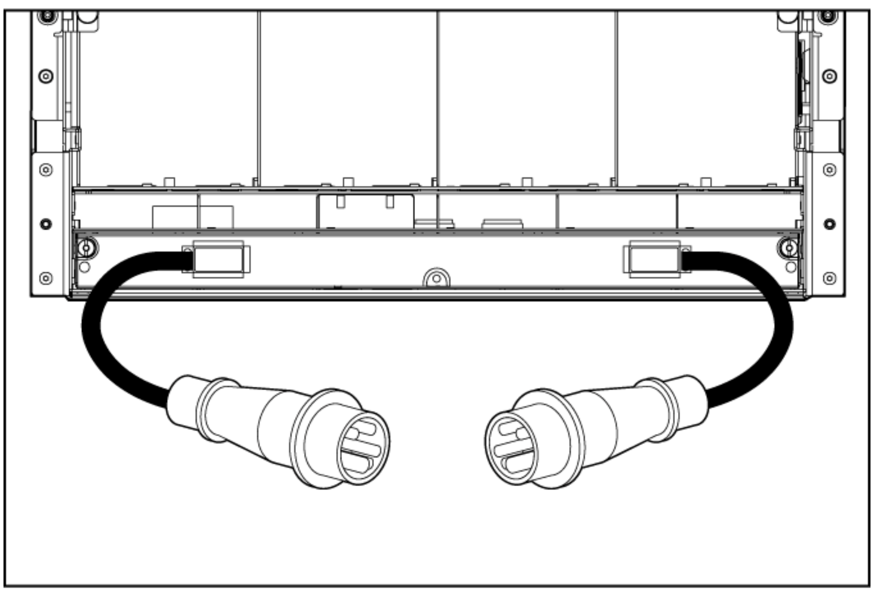
To replace the component, reverse the removal procedure.

Cabling

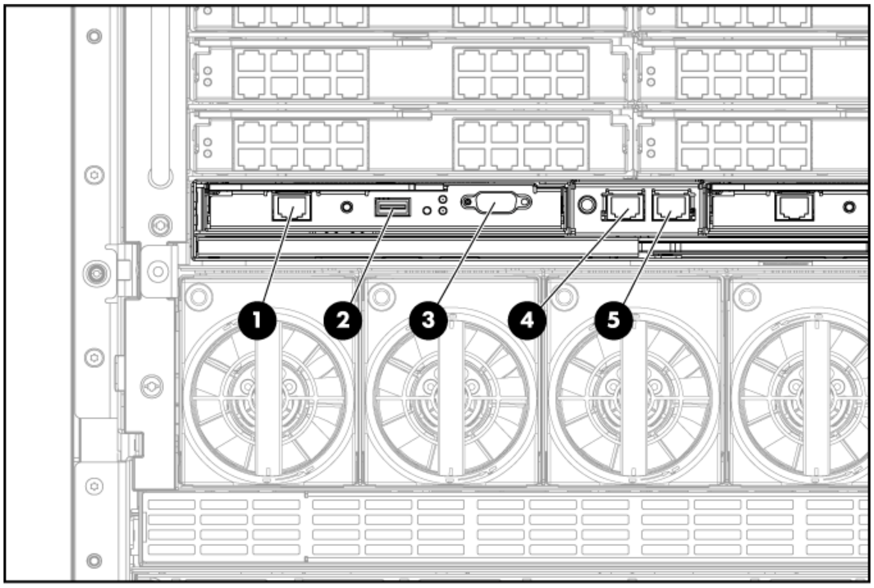
Single-phase AC configuration



Three-phase AC configuration



Onboard Administrator cabling



Item	Connector	Description
1	OA/iLO	Onboard Administrator Ethernet connection. Use a CAT5 patch cable to connect to the management network. This is the connector for the IP address of the Onboard Administrator and for the iLO ports on each server blade.
2	USB	For future USB connections. Not currently supported.
3	Serial connector	Used for command line interface (CLI). Connects to a laptop or computer with a null-modem serial cable (RS232).
4	Enclosure link-down port	Connects to the enclosure link-up port on the enclosure below with a CAT5 patch cable.
5	Enclosure link-up port and service port	Connects to the enclosure link-down port on the enclosure above with a CAT5 patch cable. On a stand-alone enclosure or the top enclosure in a series of linked enclosures, the top enclosure link-up port functions as a service port.

Diagnostic tools

Troubleshooting resources

NOTE: For common troubleshooting procedures, the term "server" is used to mean servers and server blades.

The *HP ProLiant Servers Troubleshooting Guide* provides simple procedures for resolving common problems as well as a comprehensive course of action for fault isolation and identification, error message interpretation, issue resolution, and software maintenance.

To obtain the guide, refer to any of the following sources and then select the *HP ProLiant Servers Troubleshooting Guide:*

- The server-specific Documentation CD
- The Business Support Center on the HP website (http://www.hp.com/support). Navigate to the server technical support page. Under self-help resources, select **ProLiant Troubleshooting Guide**.
- The Technical Documentation website (http://www.docs.hp.com). Select **Enterprise Servers, Workstations and Systems Hardware,** and then the appropriate server.

Onboard Administrator

If an error occurs, the Onboard Administrator displays an error message on the Insight Display. In addition, the Onboard Administrator will also display error messages in e-mail alerts and SNMP traps if this feature has been configured. For more information, see the *HP BladeSystem Onboard Administrator User Guide*.

Server blade diagnostic tools

HP Insight Diagnostics

HP Insight Diagnostics is a proactive server blade management tool, available in both offline and online versions, that provides diagnostics and troubleshooting capabilities to assist IT administrators who verify server blade installations, troubleshoot problems, and perform repair validation.

HP Insight Diagnostics Offline Edition performs various in-depth system and component testing while the OS is not running. To run this utility, launch the SmartStart CD.

HP Insight Diagnostics Online Edition is a web-based application that captures system configuration and other related data needed for effective server blade management. Available in Microsoft® Windows® and Linux versions, the utility helps to ensure proper system operation.

For more information or to download the utility, refer to the HP website (http://www.hp.com/servers/diags).

HP Insight Diagnostics survey functionality

HP Insight Diagnostics (on page 53) provides survey functionality that gathers critical hardware and software information on ProLiant server blades.

This functionality supports operating systems that may not be supported by the server blade. For operating systems supported by the server blade, see the HP website (http://www.hp.com/go/supportos).

If a significant change occurs between data-gathering intervals, the survey function marks the previous information and overwrites the survey data files to reflect the latest changes in the configuration.

Survey functionality is installed with every SmartStart-assisted HP Insight Diagnostics installation, or it can be installed through the HP PSP.

> **NOTE:** The current version of SmartStart provides the memory spare part numbers for the server blade. To download the latest version, see the HP website (http://www.hp.com/support).

Integrated Management Log

The IML records hundreds of events and stores them in an easy-to-view form. The IML timestamps each event with 1-minute granularity.

You can view recorded events in the IML in several ways, including the following:

- From within HP SIM
- From within Survey Utility
- From within operating system-specific IML viewers
  - For NetWare: IML Viewer
  - For Windows®: IML Viewer
  - For Linux: IML Viewer Application
- From within the iLO 2 user interface
- From within HP Insight Diagnostics (on page 53)

For more information, refer to the Management CD in the HP ProLiant Essentials Foundation Pack.

Array Diagnostic Utility

The HP Array Diagnostics Utility is a web-based application that creates a report of all HP storage controllers and disk drives. This report provides vital information to assist in identifying faults or conditions that may require attention. ADU can be accessed from the SmartStart CD or downloaded from the HP website (http://www.hp.com).

HP Instant Support Enterprise Edition

ISEE is a proactive remote monitoring and diagnostic tool to help manage your systems and devices, a feature of HP support. ISEE provides continuous hardware event monitoring and automated notification to identify and prevent potential critical problems. Through remote diagnostic scripts and vital system configuration information collected about your systems, ISEE enables fast restoration of your systems. Install ISEE on your systems to help mitigate risk and prevent potential critical problems.

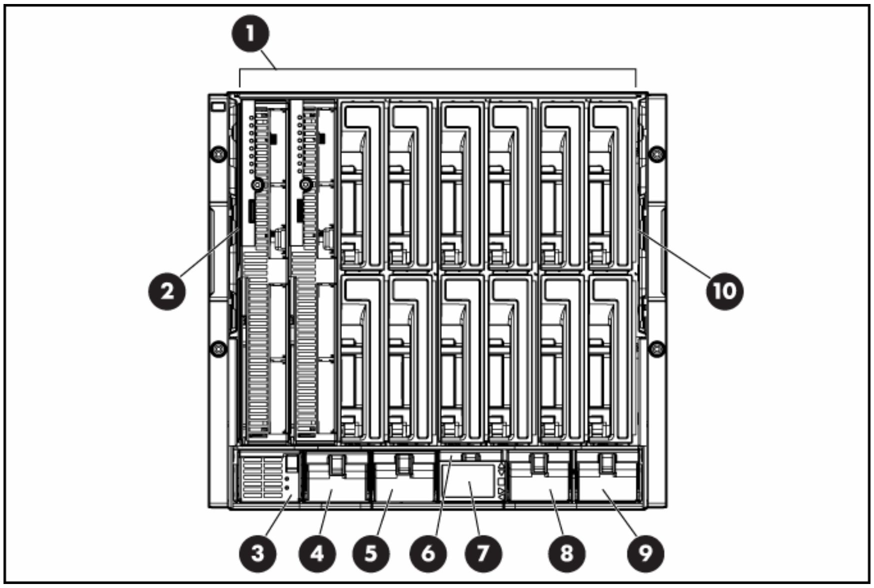
For more information on ISEE, refer to the HP website (http://www.hp.com/hps/hardware/hw_enterprise.html).

To download HP ISEE, visit the HP website (http://www.hp.com/hps/hardware/hw_downloads.html).

For installation information, refer to the HP ISEE Client Installation and Upgrade Guide (ftp://ftp.hp.com/pub/services/hardware/info/isee_client.pdf).

Component identification

Enclosure front components



Item	Description
1	Device bays*
2	Air intake slot (Do not block.)
3	Power supply bay 1
4	Power supply bay 2
5	Power supply bay 3
6	Power supply bay 4
7	Insight Display
8	Power supply bay 5
9	Power supply bay 6
10	Air intake slot (Do not block.)

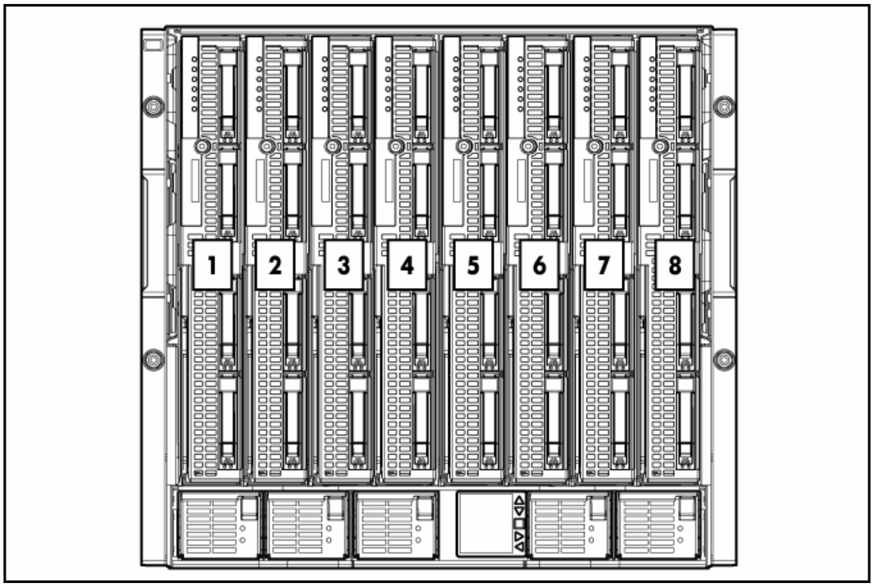
*For more information, see "Device bay numbering (on page 56)."

Device bay numbering

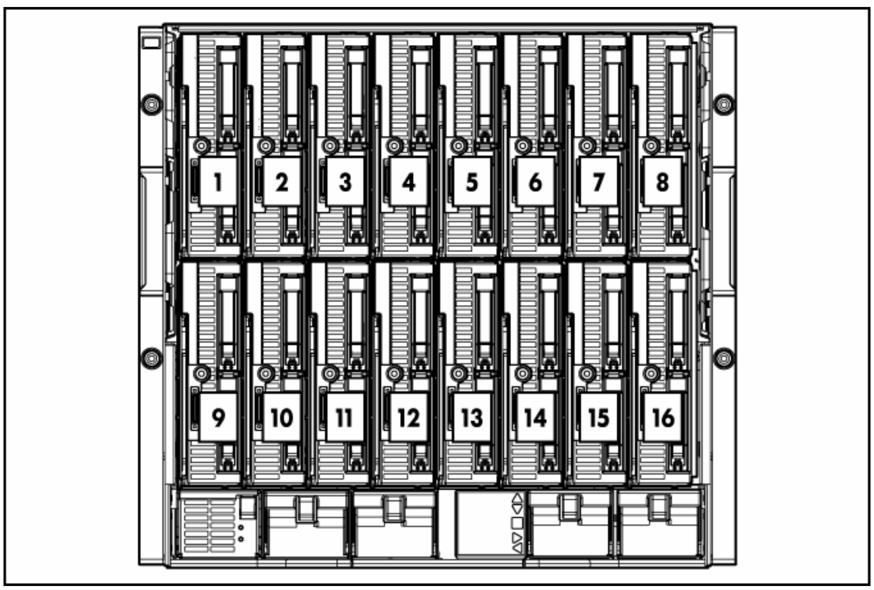
Each enclosure requires interconnects to provide network access for data transfer. Interconnects reside in bays located on the rear of the enclosure. Be sure to review device bay numbering to determine which external network connections on the interconnects are active.

IMPORTANT: When looking at the rear of the enclosure, device bay numbering is reversed.

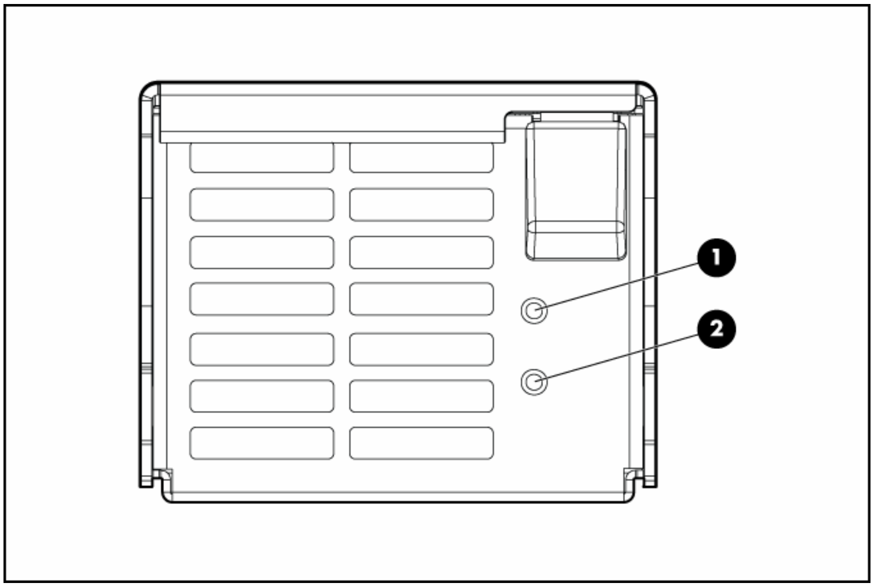
Full-height device bay numbering



Half-height device bay numbering

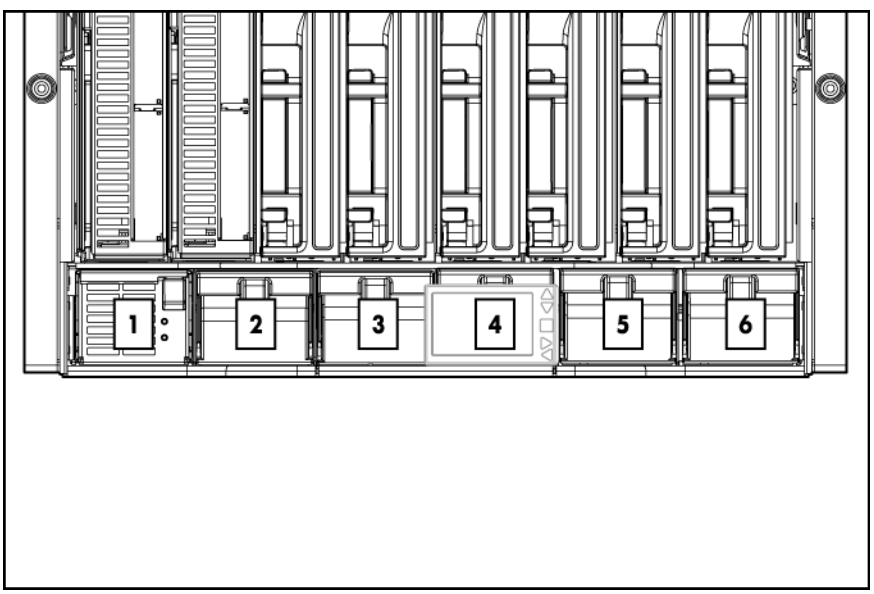


Power supply LEDs



Power LED 1 (green)	Fault LED 2 (amber)	Condition
Off	Off	No AC power to the power supply
On	Off	Normal
Off	On	Power supply failure

Power supply bay numbering



HP BladeSystem Insight Display

Insight Display overview

The Insight Display enables the rack technician to configure the enclosure initially. It also provides information about the health and operation of the enclosure. See the *HP BladeSystem Onboard Administrator User Guide* for additional information.

The Insight Display background color varies with the condition of the enclosure health:

- Blue—The Insight Display background illuminates blue when the enclosure UID is active. The enclosure UID is automatically turned on when the enclosure is powered up for the first time and can be turned on by selecting **Turn Enclosure UID On** from the Main Menu or by pressing the enclosure UID button on the rear of the enclosure.

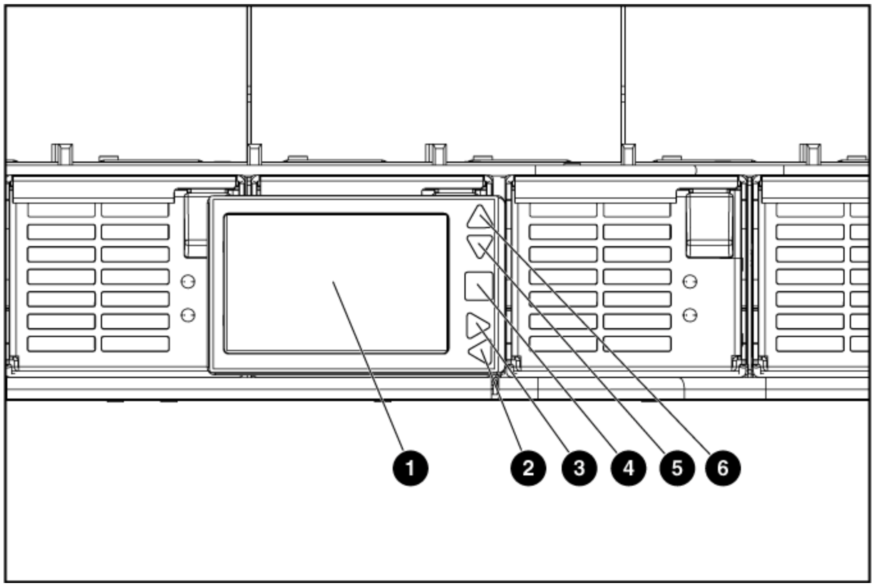
  When the enclosure UID is on, the Insight Display flashes after 2 minutes of inactivity. Pressing any button on the Insight Display stops the flashing and reactivates the screen.
- Green—The Insight Display background illuminates green when no error or alert conditions exist and the enclosure is operating normally. After 2 minutes of inactivity, the Insight Display light turns off. Pressing any button on the Insight Display reactivates the screen.
- Amber—The Insight Display background illuminates amber when the Onboard Administrator detects an error or alert condition. Depending on the error, the component is displayed in red or yellow on the Health Summary screen.

  After 2 minutes of inactivity, the Insight Display background flashes amber, indicating an error or alert condition exists. If the enclosure UID is on and an error or alert condition exists, the Insight Display illuminates blue because the enclosure UID takes priority over the alert. Pressing any button on the Insight Display reactivates the screen.
- Dark (no power)—The Insight Display has a 2-minute inactivity period. If no action is taken and no alert condition exists, the enclosure UID is off, or the chat mode has not been activated, the screen light turns off after 2 minutes. Pressing any button on the Insight Display reactivates the screen.

The Enclosure Health icon is located on the bottom left corner of every screen, indicating the enclosure health. To access the Health Summary screen from any Insight Display screen, navigate the cursor to the Enclosure Health icon and press **OK**.

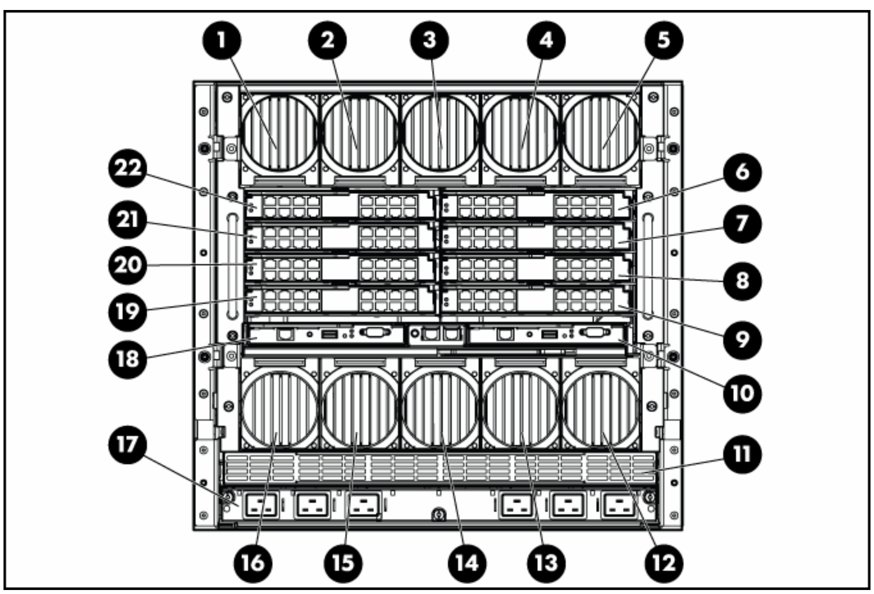
For information on driver and firmware updates, see the HP website (http://www.hp.com/go/blades/).

HP BladeSystem Insight Display components



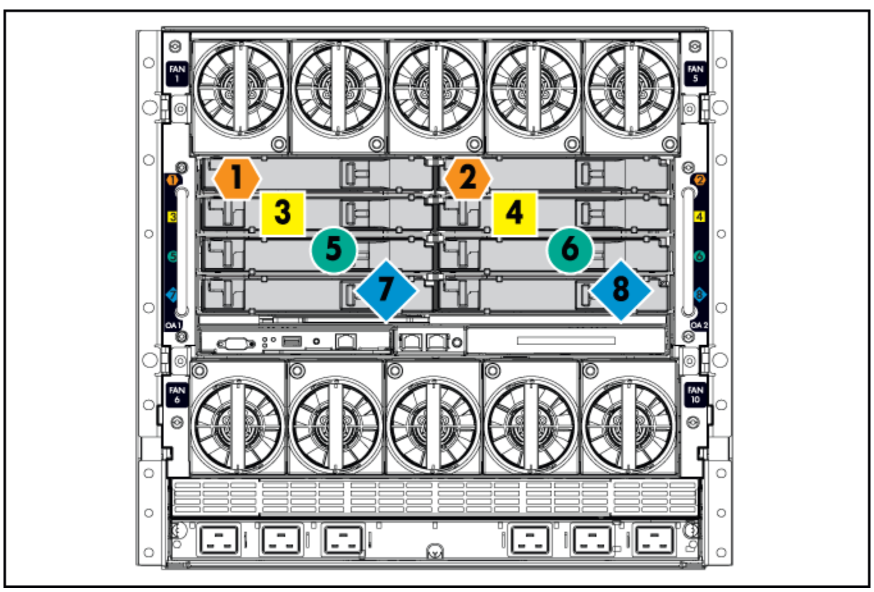
Item	Description	Function
1	Insight Display screen	Displays Main Menu error messages and instructions
2	Left arrow button	Moves the menu or navigation bar selection left one position
3	Right arrow button	Moves the menu or navigation bar selection right one position
4	OK button	Accepts the highlighted selection and navigates to the selected menu
5	Down arrow button	Moves the menu selection down one position
6	Up arrow button	Moves the menu selection up one position

Enclosure rear components



Item	Description
1	Fan bay 1
2	Fan bay 2
3	Fan bay 3
4	Fan bay 4
5	Fan bay 5
6	Interconnect bay 2
7	Interconnect bay 4
8	Interconnect bay 6
9	Interconnect bay 8
10	Onboard Administrator bay 2
11	Power supply exhaust vent (do not block)
12	Fan bay 10
13	Fan bay 9
14	Fan bay 8
15	Fan bay 7
16	Fan bay 6
17	AC power connectors
18	Onboard Administrator bay 1
19	Interconnect bay 7
20	Interconnect bay 5
21	Interconnect bay 3
22	Interconnect bay 1

Interconnect module bay numbering



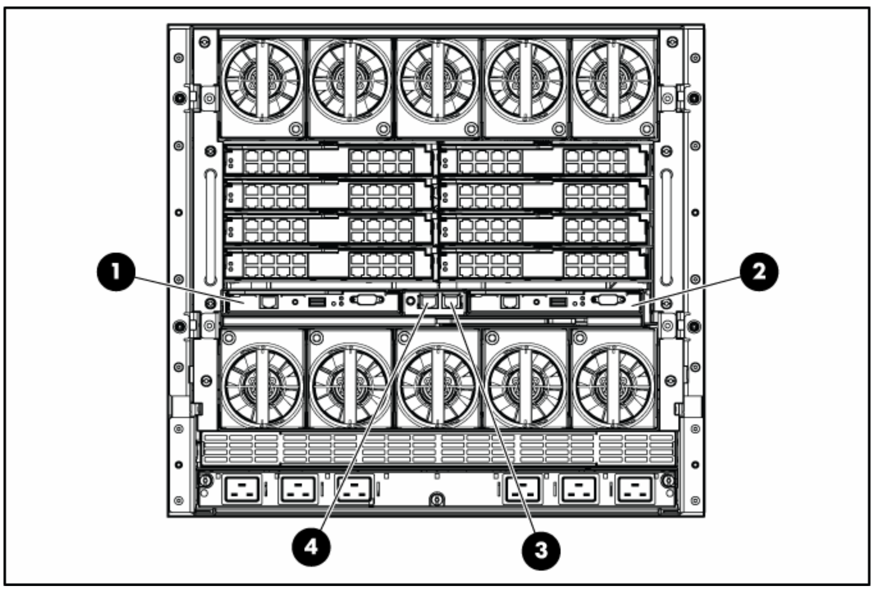
Server blade signal	Interconnect bay number	Interconnect bay label
NICs 1, 2, 3, and 4 (embedded)	1, 2	
Mezzanine 1	3, 4	
Mezzanine 2	5, 6 and then 7, 8	
Mezzanine 3	7, 8 and then 5, 6	

NOTE: For information on the location of LEDs and ports on individual interconnect modules, see the documentation that ships with the interconnect module.

If a four-port option card is installed in mezzanine slot 2, then ports 1 and 2 are connected to interconnect bays 5 and 6, respectively, and ports 3 and 4 are connected to interconnect bays 7 and 8, respectively.

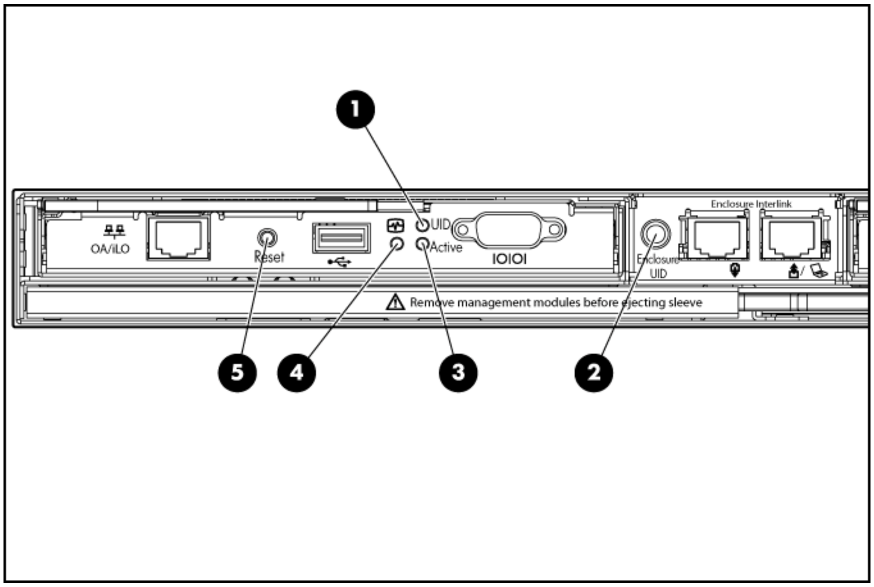
If a four-port option card is installed in mezzanine slot 3 in a full-height server blade, then ports 1 and 2 are connected to interconnect bays 7 and 8, respectively, and ports 3 and 4 are connected to interconnect bays 5 and 6, respectively.

Onboard Administrator components



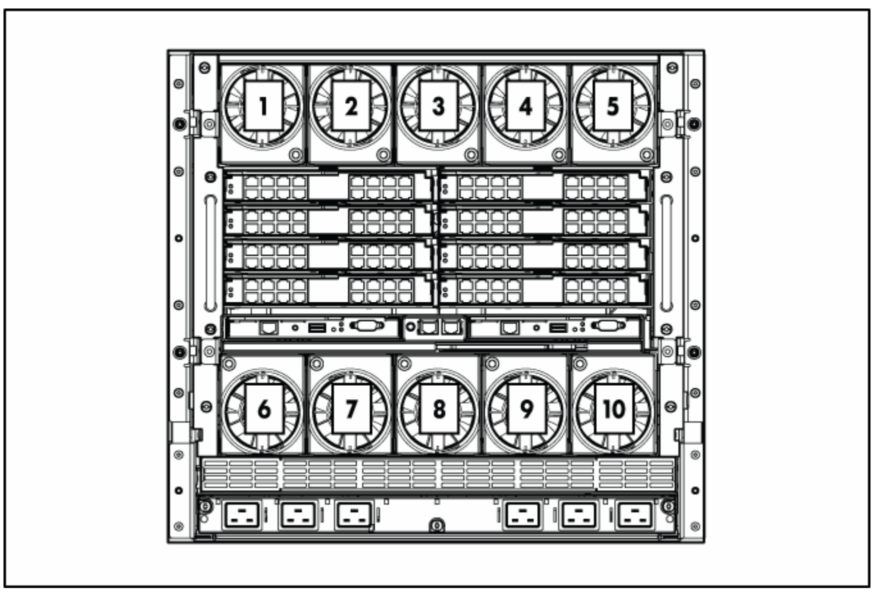
Item	Description
1	Onboard Administrator bay 1
2	Onboard Administrator bay 2 (redundant, if used)
3	Enclosure link-up port
4	Enclosure link-down port

Onboard Administrator LEDs and buttons

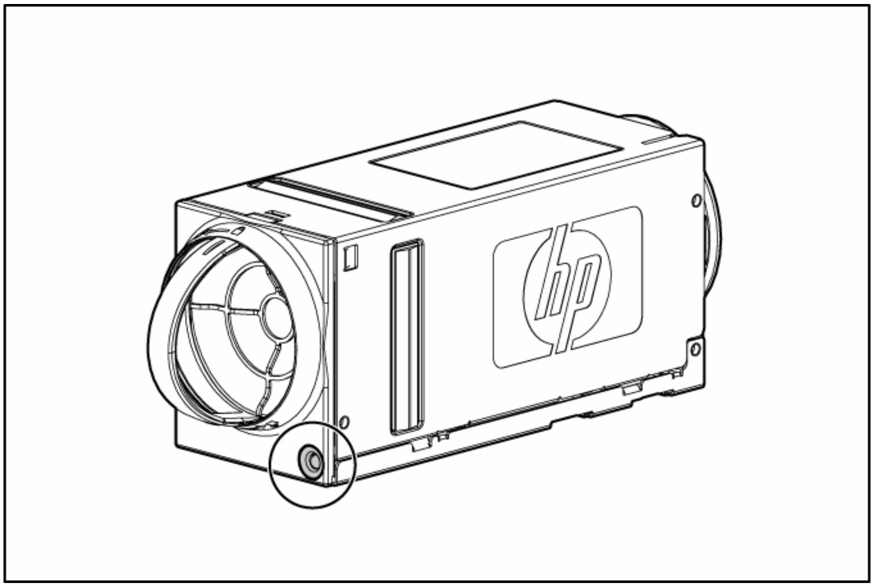


Item	Description
1	Onboard Administrator UID LED
2	Enclosure UID LED
3	Onboard Administrator Active LED
4	Onboard Administrator Health LED
5	Onboard Administrator reset button

Fan bay numbering



Fan LED



LED color	Fan status
Solid green	The fan is working.
Solid amber	The fan has failed.
Flashing amber	See the Insight Display screen.

Specifications

Environmental specifications

Specification	Value
Temperature range*	
Operating	10°C to 35°C (50°F to 95°F)
Non-operating	-30°C to 60°C (-22°F to 140°F)
Wet bulb temperature	
Operating	28°C (82.4°F)
Non-operating	38.7°C (101.7°F)
Relative humidity (noncondensing)**	
Operating	20% to 80%
Non-operating	5% to 95%

* All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8°F per 1000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048 m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3 KPa/4.4 psia.
** Storage maximum humidity of 95% is based on a maximum temperature of 45°C (113°F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

Enclosure specifications

Specification	Value
Product dimensions	
Height	442.0 mm (17.4 in)
Depth	813.0 mm (32.0 in)
Width	445.0 mm (17.5 in)
Shipping dimensions	
Height	759.00 mm (29.88 in)
Depth	1013.00 mm (39.88 in)
Width	607.00 mm (23.88 in)
Single-phase enclosure weight *	
Unboxed	54.9 kg (121.0 lb)
Shipping	74.4 kg (164.0 lb)
Three-phase enclosure weight *	
Unboxed	68.0 kg (150.0 lb)
Shipping	87.5 kg (193.0 lb)

Specification	Value
Maximum enclosure weight	
Unboxed	204.0 kg (450.0 lb)
Shipping	223.6 kg (493.0 lb)

* No components installed.

Power specifications

Single-phase power

Specification	Value
Power cord	IEC-320 C19-C20 1.22 m (4 ft)
Output	2250 W per power supply
Input requirements	
Rated input voltage	200 VAC to 240 VAC
Rated input frequency	50 Hz to 60 Hz
Rated input current per power supply	12.6 A at 208 VAC 11.9 A at 220 VAC 13.1 A at 200 VAC
Rated input power per power supply (maximum)	2612 VA

Three-phase power (North America/Japan)

Specification	Value
Power cords (2)	NEMA L15-30p 2.44 m (10 ft)
Output	2250 W per phase
Input requirements	
Rated input voltage	200 VAC to 208 VAC line to line 115 V to 120 V line to neutral 3-phase delta
Rated input frequency	50 Hz to 60 Hz
Maximum input current per line cord	22.6 A at 200 VAC 21.8 A at 208 VAC 20.6 A at 220 VAC
Maximum input power per line cord	7836 VA

Three-phase power (International)

Specification	Value
Power cords (2)	IEC-309 200/346-V to 240/415-V, 5-pin, 16-A 2.44 m (10 ft)
Output	2250 W
Input requirements	
Rated input voltage	346 VAC to 415 VAC line-to-line* 200 VAC to 240 VAC line-to-neutral 3-phase WYE
Rated input frequency	50 Hz to 60 Hz
Maximum input current per line cord	13.1 A at 200 VAC 11.9 A at 220 VAC 10.9 A at 240 VAC
Maximum input power per line cord	7836 VA

*Rated 200 VAC to 240 VAC line-to-neutral. The enclosure will not operate from higher line-to-line voltage with the WYE wall plug configuration. Input AC modules are configured to provide 200 VAC to 240 VAC to the power supplies in this system.

Acronyms and abbreviations

ADU

Array Diagnostics Utility

CLI

Command Line Interface

CSR

Customer Self Repair

ESD

electrostatic discharge

I/O

input/output

iLO

Integrated Lights-Out

IML

Integrated Management Log

ISEE

Instant Support Enterprise Edition

LCD

liquid crystal display

LED

light-emitting diode

OA

Onboard Administrator

SAN

storage area network

SFP

small form-factor pluggable

SIM

Systems Insight Manager

SNMP

Simple Network Management Protocol

Index

M

O

P

R

S

T

U

W